ORDER NO. AD9201004C0
A2

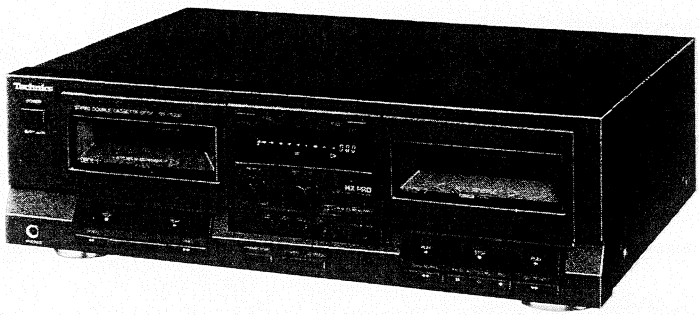
# Service Manual

Cassette Deck

## Dolby NR-Equipped Stereo Double Cassette Deck

# RS-TR232

DOLBY B·C NR HX PRO*



※ HX Pro headroom extension originated by Bang Olufsen and manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY", the double-D symbol, and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

**Colour**

(K)... Black Type

**Area**

| Suffix for Model No. | Area | Colour |
|---|---|---|
| (P) | U.S.A. | (K) |
| (PC) | Canada. | |
| (EB) | Great Britain. | |
| (EG) | Germany and Italy./ Continental Europe. | |
| (GC) | Asia, Latin America, Middle Near East and Africa. | |
| (GN) | Oceania. | |

## RS-T330R MECHANISM SERIES (AR300)

# SPECIFICATIONS

### ■ CASSETTE DECK SECTION

**Deck system** — Stereo cassette deck
**Track system** — 4-track, 2-channel
**Recording system** — AC bias
**Bias frequency** — 80kHz
**Erasing system** — AC erase
**Heads**
**Deck 1** — Playback head (Permalloy) × 1
**Deck 2** — Recording/Playback head (Permalloy) × 1
Erasing head (Double-gap ferrite) × 1
**Motors**
**Deck 1** — Capstan/Reel table drive (DC servo motor) × 1
**Deck 2** — Capstan/Reel table drive (DC servo motor) × 1
**Tape speed** — 4.8cm/sec. ($1^7/_8$ ips)
**Wow and flutter**
**For (P, PC) areas** — 0.1% (WRMS)
**For others** — 0.07% (WRMS)
±0.2% (DIN)

**Fast forward and rewind times**
Approx. 110 seconds with C-60 cassette tape

**Frequency response (Dolby NR off)**
**NORMAL** — 40Hz~15kHz±3dB
**For (P, PC) areas** — 20Hz~17kHz
**For others** — 20Hz~16kHz (DIN)
**$CrO_2$** — 40Hz~15kHz±3dB
**For (P, PC) areas** — 20Hz~17kHz
**For others** — 20Hz~16kHz (DIN)
**METAL** — 40Hz~16kHz±3dB
**For (P, PC) areas** — 20Hz~18kHz
**For others** — 20Hz~17kHz (DIN)

**S/N** (Signal level=max recording level, $CrO_2$ type tape)
**NR off** — 56dB (A weighted)
**Dolby B NR on** — 66dB (CCIR)
**Dolby C NR on** — 74dB (CCIR)

**Input sensitivity and impedance**
**LINE IN** — 60mV/47kΩ

**Output voltage and impedance**
**LINE OUT** — 400mV/800Ω
**HEADPHONES** — 30mV/(8Ω)
(Load impedance 8Ω~600Ω)

### ■ GENERAL

**Power consumption** — 17W
**Power supply**
**For (P, PC) areas** — AC 60Hz, 120V
**For (GC) area** — AC 50/60Hz, 110V/127V/220V/240V
**For ohters** — AC 50/60Hz, 230–240V
**Dimensions (W × H × D)** — 430 × 136 × 290mm
($16^{15}/_{16}$" × $5^3/_8$" × $11^{13}/_{32}$")
**Weight** — 4.7kg (10.4lb.)

**Note:**
Specifications are subject to change without notice.
Weight and dimensions are approximate.

Technics

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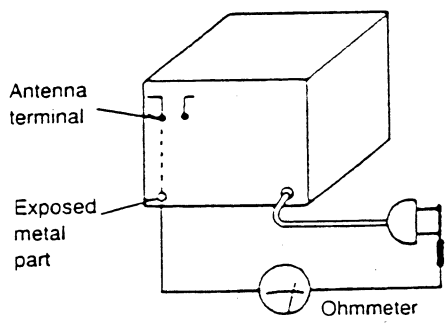
# ■ SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barries, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

## •INSULATION RESISTANCE TEST

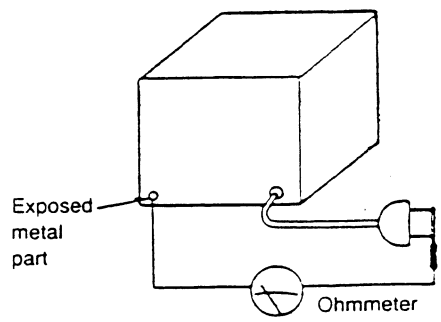
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3 MΩ and 5.2 MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

**Note:** Some exposed parts may be isolated from the chassis by design. These will read infinity.




(Fig. A)

Resistance=3 MΩ–5.2 MΩ

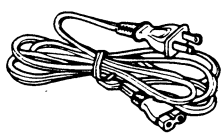



(Fig. B)

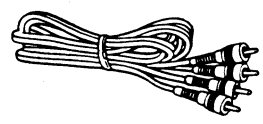
Resistance=Approx. ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

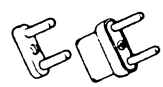
# ■ ACCESSORIES



AC power supply cord
(RJA0004) ..... (GC)
(RJA0019-1K) ..... (EG)
(SJA172) ..... (PC)
(SJA173) ..... (GN) ..... 1 pc.
(SJA175-1) ..... (P)
(SJA193) ..... (EB)

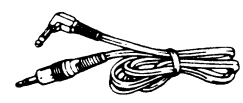


Stereo connection cable
(SJP2249-3) ..... 2 pcs.



Power plug adaptor
(SJP9215) ..... 1 pc.
(For GC area only)

Stereo mini cable
(SJP2257T) ..... 2 pcs.



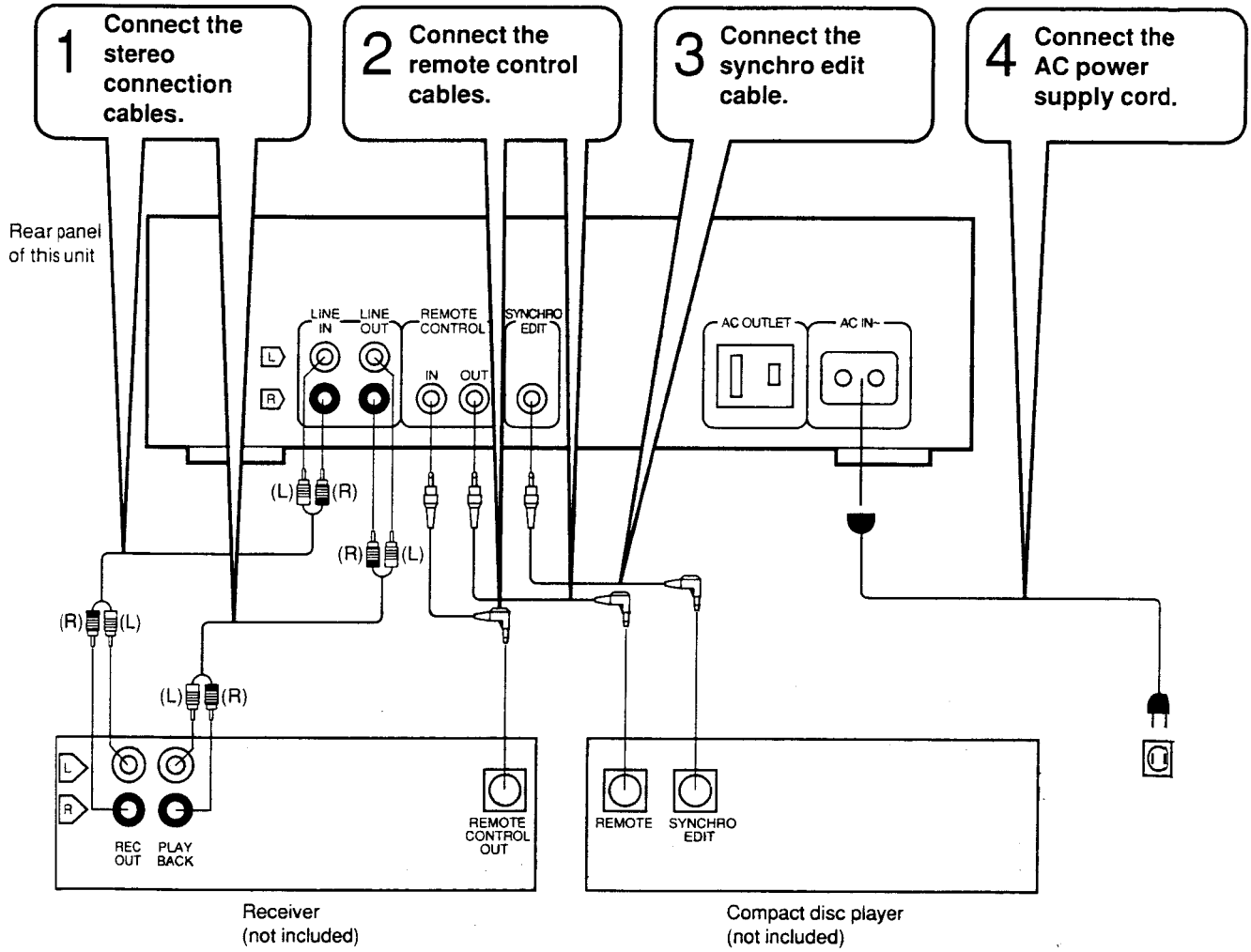
Remote control cable ..... 1 pc.

Synchro edit cable ..... 1 pc.

**Note:** Configuration of AC power supply cord differs according to area.

# ■ CONNECTIONS

Before making connections, be sure that the power to this unit and all other system components turned off first.
See the operating instructions of the receiver or the compact disc player for details.




**1 Connect the stereo connection cables (included) to the REC OUT and PLAYBACK terminals of the receiver.**

**2 Use the included remote control cable to connect the REMOTE CONTROL INput to the REMOTE CONTROL OUTput on the receiver.**

The following functions can be operated by remote-control (When connected to the appropriate Technics receiver): Playback, Stop, Pause, Fast-forward/cue, Rewind/review, Record, Auto record mute, and 1–2 (A–B) deck selection.

The REMOTE CONTROL "OUT" terminal is provided to connect a Technics Compact Disc Player or Graphic Equalizer.

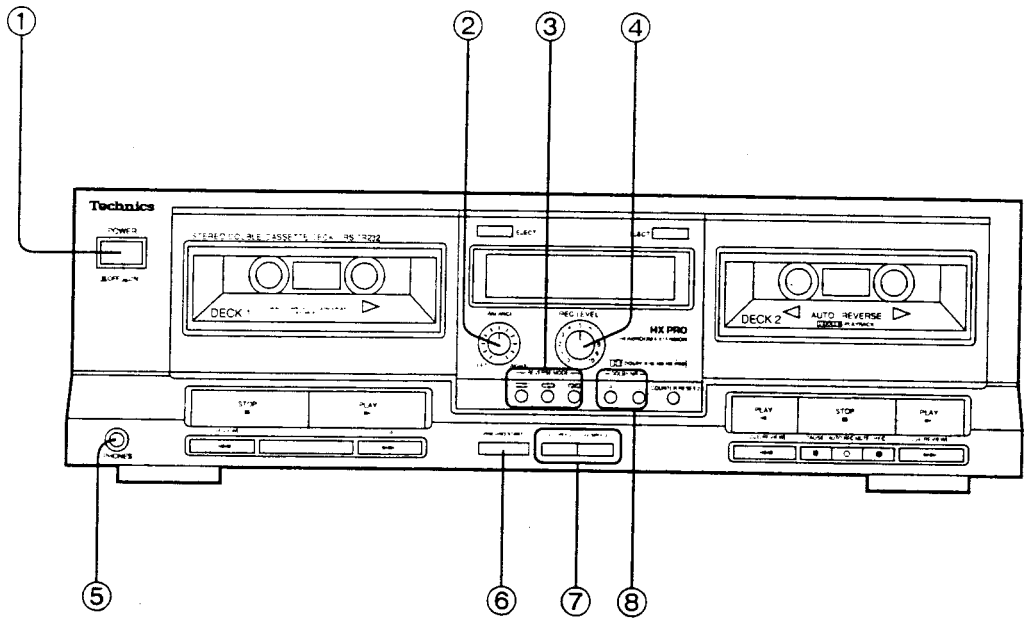
**3 Connect the synchro edit cable (included) to the "SYNCHRO EDIT" terminal of selected Technics compact disc player.**

**4 Connect the power supply cord (included) to the household AC outlet (AC 120 V/60 Hz, P, PC areas only).**

The REMOTE CONTROL and SYNCHRO EDIT terminals can only be used with selected Technics Components. Please contact your dealer for details.

**"AC OUTLET" (UNSWITCHED: P, PC areas only)**
Power is always available, regardless of the unit's power switch setting.
Audio equipment rated up to 100 W can be connected.

# ■ LOCATION OF CONTROLS




## Control section

### Controls common to both tape decks

**① Power switch (POWER)...For P, PC areas**
Press (▙_▄) to switch the power on.
Press again (▄_▙) to switch the power off.

**Power "STANDBY ⏻ /ON" switch...For others (POWER ▙ STANDBY ⏻ ▄ ON)**
This switch switches ON and OFF the secondary circuit power only. The unit is in the "standby" condition when this switch is set to the STANDBY ⏻ position. Regardless of the switch setting, the primary circuit is always "live" as long as the power cord is connected to an electrical outlet.

**② Recording-balance control (BALANCE)**
This control is used to balance the left and right sound levels of deck 2 during recording.

**③ Reverse-mode selectors (REVERSE MODE)**
These selectors are used for selection of the reverse mode (for either playback or recording).

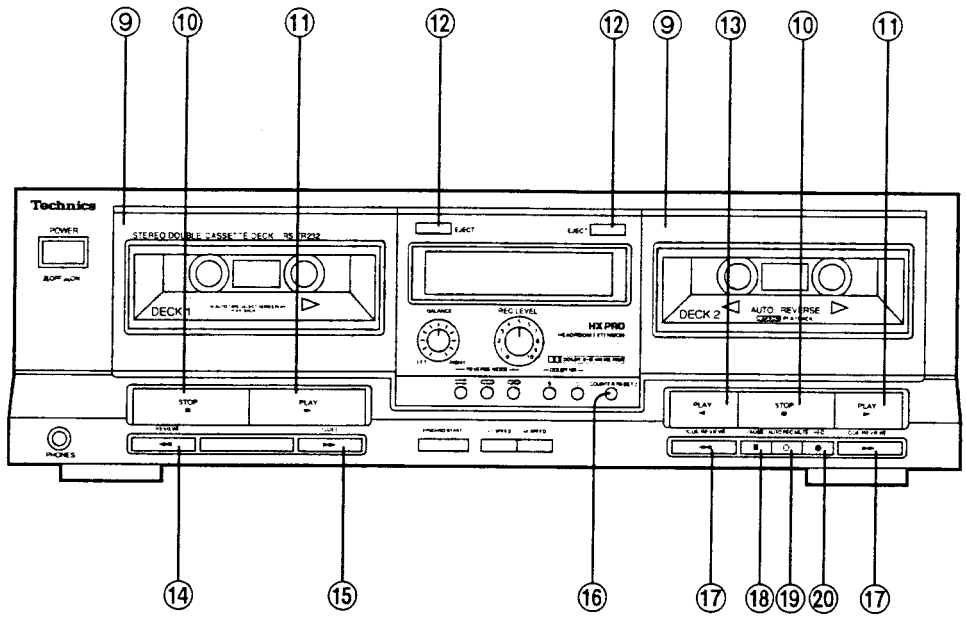
**④ Recording-level control (REC LEVEL)**
This control is used to regulate the recording level of deck 2.

**⑤ Headphones jack (PHONES)**

**⑥ Synchro-start button (SYNCHRO START)**
This button is used to start a edit-recording, simultaneously starting deck 1 (the playback deck) and deck 2 (the recording deck).

**⑦ Edit-recording tape-speed buttons (×1 SPEED, ×2 SPEED)**
These buttons are used to select the recording speed during edit-recording.

**⑧ Dolby noise-reduction buttons (DOLBY NR)**
These buttons are used to reduce the hissing noise heard from the tape. This unit is provided with both the B-type and C-type noise-reduction systems.




## Controls applicable to tape deck 1 and/or 2

⑨ **Cassette holder**

⑩ **Stop button (■ STOP)**
This button is used to stop the tape movement.

⑪ **Forward-side playback button (▶ PLAY)**
This button is used to start the playback or recording (of deck 2 only) of side "A" of the cassette.
(The tape will move in the left-to-right direction.)

⑫ **Eject button (EJECT)**
This button is used to open the cassette holder.

⑬ **Reverse-side playback button (◀ PLAY)**
This button is used to start the playback or recording of side "B" of the cassette in deck 2.
(The tape will move in the right-to-left direction.)

⑭ **Rewind/review button (◀◀ REVIEW)**
This button is used to rewind the tape.
During playback this button is used to review the contents at high speed.

⑮ **Fast-forward/cue button (▶▶ CUE)**
This button is used to advance the tape. During playback this button is used to cue the contents at high speed.

⑯ **Tape counter reset button (COUNTER RESET 2)**
This button is used to reset the tape counter indication to "000".

⑰ **Fast-forward/cue, rewind/review buttons (▶▶ / ◀◀ CUE/REVIEW)**
These buttons are used to advance or rewind the tape.
During playback these buttons are used to cue or review while listening to the contents at high speed.

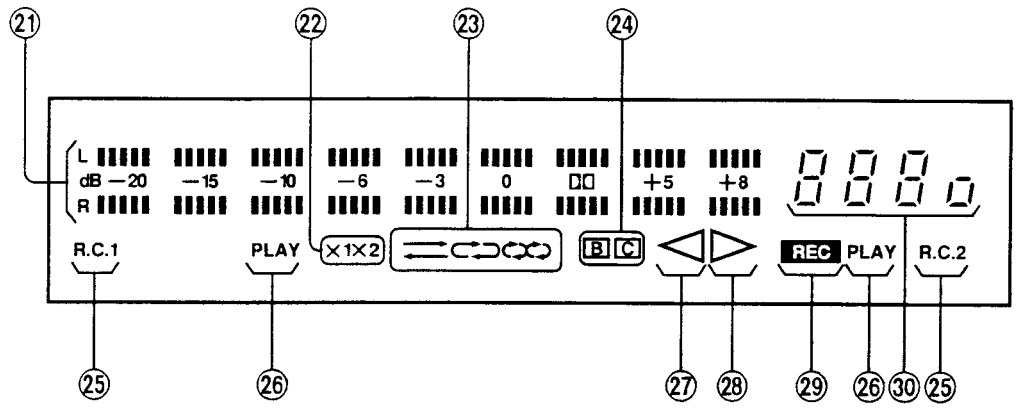
⑱ **Pause button (❚❚ PAUSE)**
This button is used to temporarily stop the tape playback or recording of deck 2 only.

⑲ **Automatic-record-muting button (○ AUTO REC MUTE)**
This button is used to make a silent interval on the tape while recording is in progress on deck 2.

⑳ **Record button (● REC)**
This button is used to set deck 2 to the recording stand-by mode.

**(Continued on next page)**

(continued)




# Display section

## Indicators common to both tape decks

**㉑ Input level meter**
During playback, this meter indicates the level of the recorded sound.
During recording, it indicates the level being recorded, adjusted by the recording-level control.

**㉒ Edit-recording tape-speed indicators (×1, ×2)**
One of these indicators illuminates to show which of the edit recording speeds was selected by pressing one of the edit-recording tape-speed buttons.

**㉓ Reverse-mode indicators (⇄, ↻, ↻↻)**
Each indicator illuminates to show which of the reverse modes was selected by the reverse-mode selectors.

**㉔ Dolby noise-reduction indicators (B, C)**
Each indicator illuminates to show the type of Dolby noise-reduction system selected by pressing one of the Dolby noise-reduction buttons.

## Indicators applicable only to tape deck 1 or 2

**㉕ Remote-control indicator (R.C.1, R.C.2)**
Illuminates to indicate that this unit can now be controlled by the remote-control transmitter of the appropriate receiver connected.

**㉖ Playback indicator (PLAY)**
When this indicator illuminates steadily, it indicates that this unit is in the playback or recording mode (of deck 2 only). When flashing continually, indicates that deck 2 is in the pause mode or in the recording stand-by mode.

**㉗ Reverse-side indicator (◁)**
Illuminates during playback or recording of deck 2, to indicate that side "B" of the tape is being used.

**㉘ Forward-side indicator (▷)**
Illuminates during playback or recording of deck 2, to indicate that side "A" of the tape is being used.

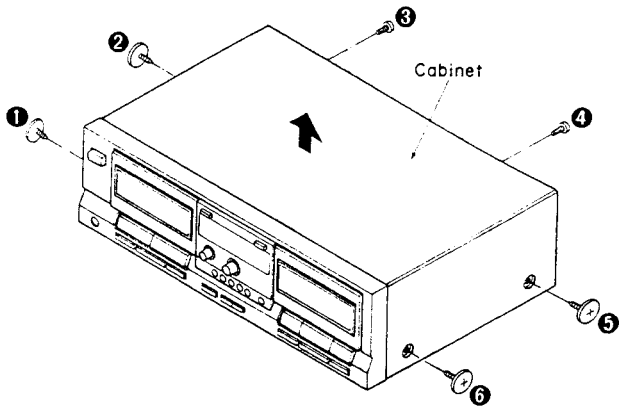
**㉙ Recording indicator (REC)**
Illuminates to indicate that deck 2 is in the recording stand-by mode or is recording.

**㉚ Tape counter**
Indicates the amount of tape movement separately for deck 2. The least significant digit indicates tape movement.

# ■ DISASSEMBLY INSTRUCTIONS

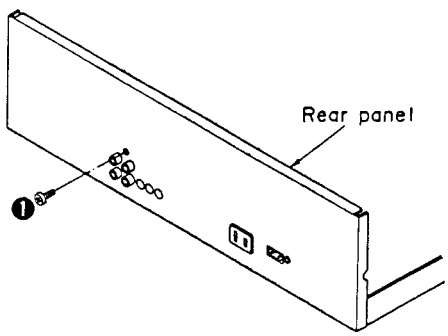
**"ATTENTION SERVICER"**
Some chassis components may have sharp edges. Be careful when disassembling and servicing.

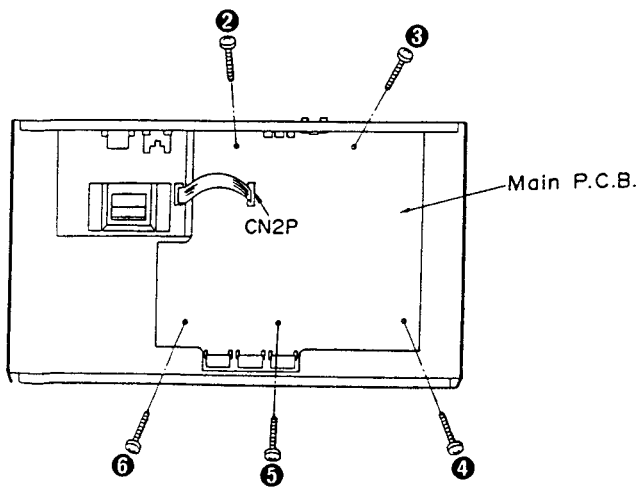
| Ref. No. 1 | Removal of the Cabinet |
|---|---|
| Procedure 1 | |




• Remove the 6 screws (❶~❻).

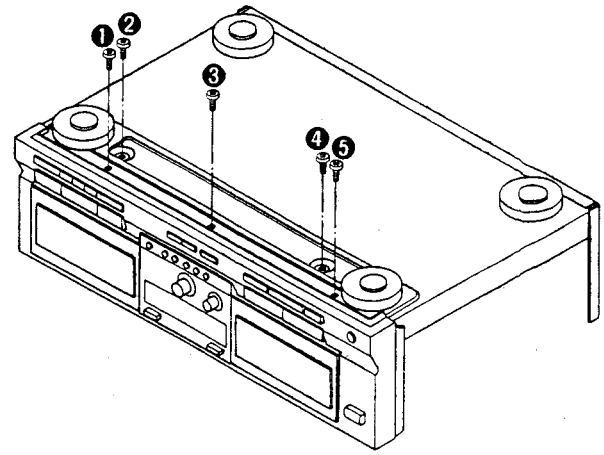
| Ref. No. 3 | Removal of the Main P.C.B. |
|---|---|
| Procedure 1→2→3 | |



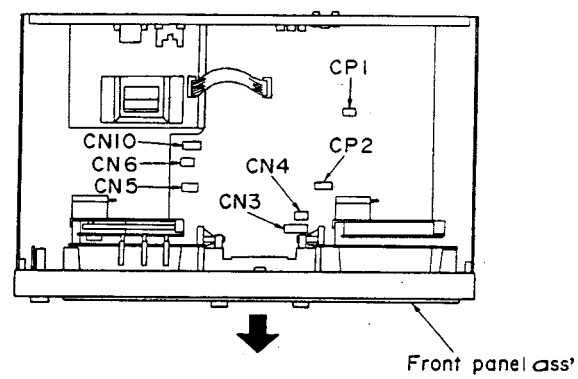




1. Remove the 6 screws (❶~❻)
2. Remove the 1 flat cable (CN2P).

| Ref. No. 2 | Removal of the Front Panel Ass'y |
|---|---|
| Procedure 1→2 | |



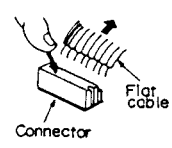

1. Remove the 5 screws (❶~❺).



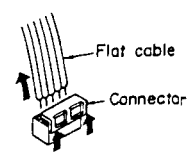

2. Remove the 2 connectors (CP1, CP2).
3. Remove the 5 flat cables (CN3, CN4, CN5, CN6, CN10).
4. Remove the front panel ass'y in the direction of arrow.

### How to remove the Flat Cable

• Pull out the flat cable while pressing the connector. (CN3, CN5)

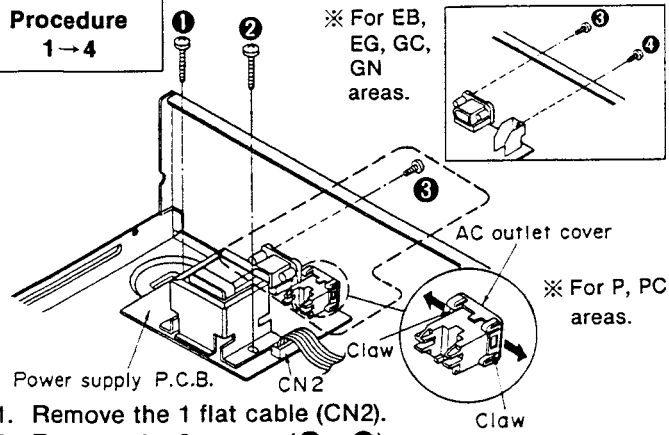



1. Lift the connector.
2. Pull out the flat cable. (CN4, CN6, CN10)



| Ref. No. 4 | Removal of the Power Supply P.C.B. |
|---|---|

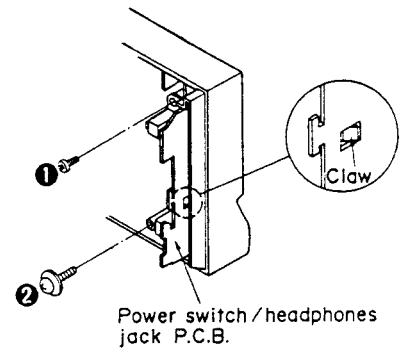
**Procedure 1→4**




1. Remove the 1 flat cable (CN2).
2. Remove the 3 screws (❶~❸).
3. Remove the 1 screw (❹).
   (For EB, EG, GC, GN areas)
4. Release the 2 claws of the AC outlet cover.
   (For P, PC areas)

| Ref. No. 5 | Removal of the Power Switch Headphones Jack P.C.B. |
|---|---|

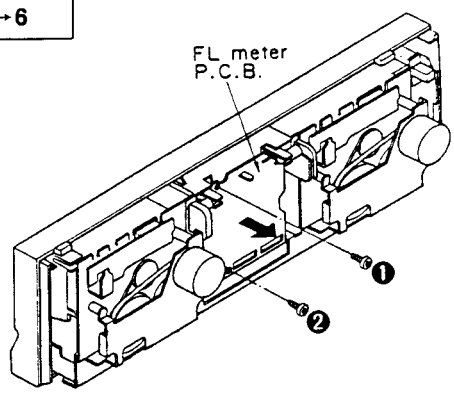
**Procedure 1→2→5**




1. Remove the 2 screws (❶, ❷).
2. Release the 1 claw.

| Ref. No. 6 | Removal of the FL Meter P.C.B. |
|---|---|

**Procedure 1→2→6**




1. Remove the 2 screws ((❶, ❷).
2. Remove the FL meter P.C.B. in the direction of arrow.

| Ref. No. 7 | Removal of the Mechanism Units (DECK 1, DECK 2) |
|---|---|

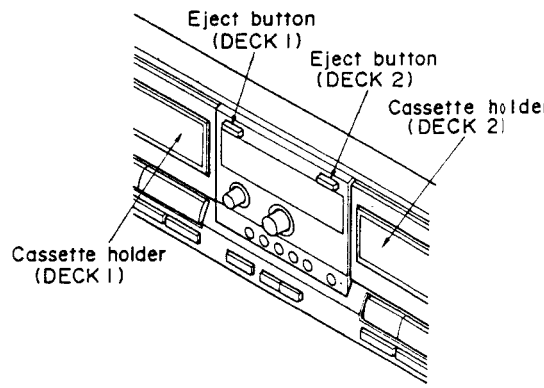
**Procedure 1→2→7**

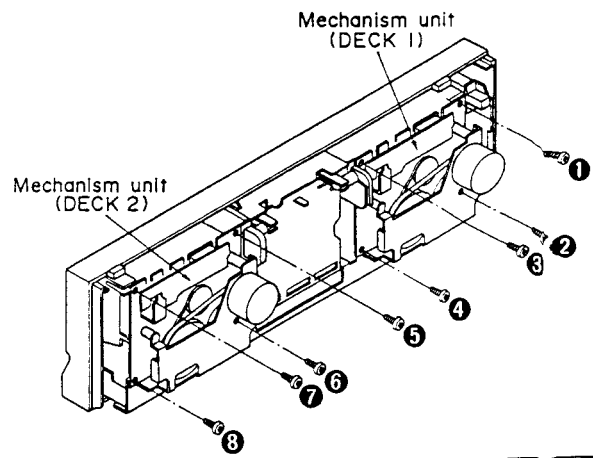
■ **Mechanism Unit (DECK 1)**

1. Press the eject button and open the cassette holder.
2. Remove the 4 screws (❶~❹).

■ **Mechanism Unit (DECK 2)**

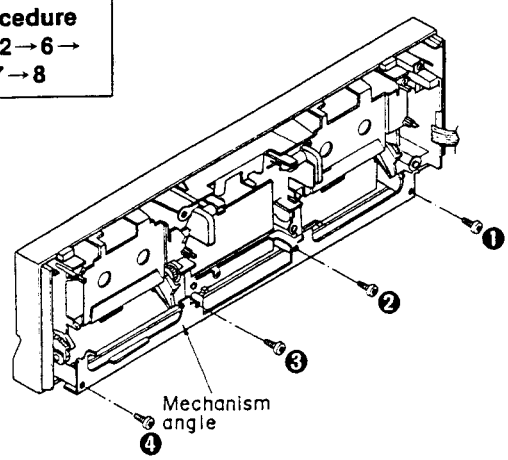
1. Press the eject button and open the cassette holder.
2. Remove the 4 screws (❺~❽).




| Ref. No. 8 | Removal of the Mechanism Angle |
|---|---|

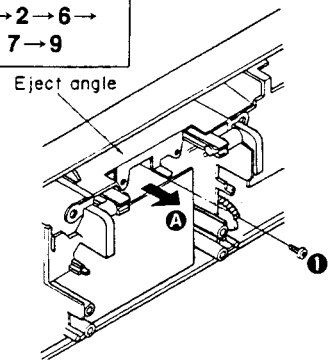
**Procedure 1→2→6→7→8**

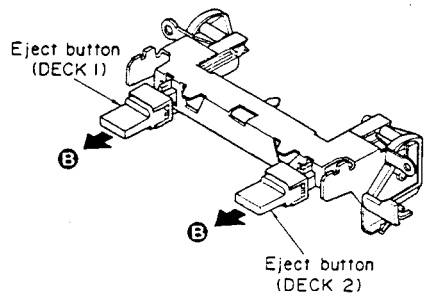


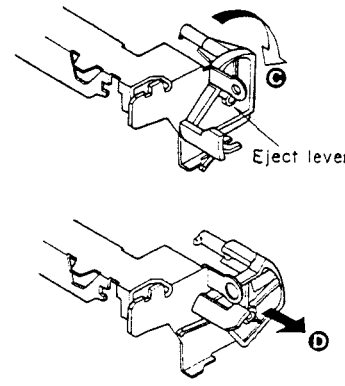

• Remove the 4 screws (❶~❹).

| Ref. No. 9 | Removal of the Eject Angle, Eject Buttons, and Eject Lever |
|---|---|

**Procedure 1→2→6→7→9**



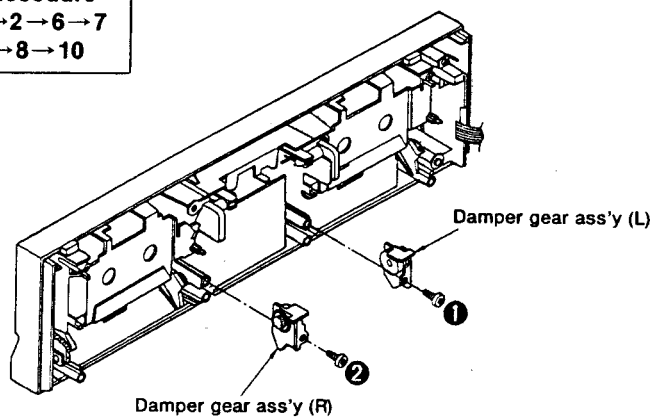



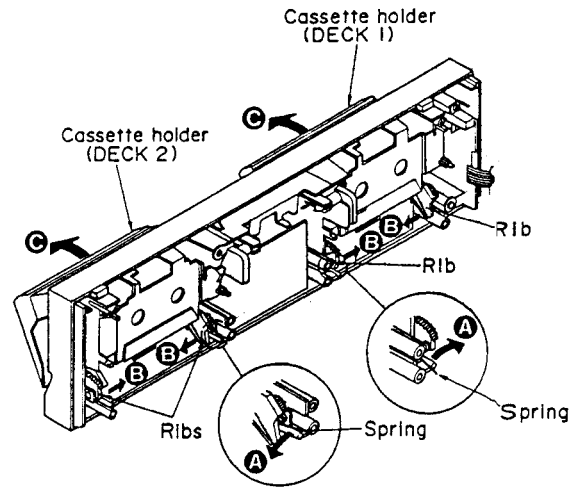




1. Remove the 1 screw (❶).
2. Pull out the eject angle in the direction of arrow Ⓐ.
3. Pull out the eject buttons in the direction of arrow Ⓑ.
4. Turn the eject lever in the direction of arrow Ⓒ, and remove the eject lever in the hirection of arrow Ⓓ.

| Ref. No. 10 | Removal of the Cassette Holder (DECK 1, DECK 2) |
|---|---|

**Procedure 1→2→6→7→8→10**

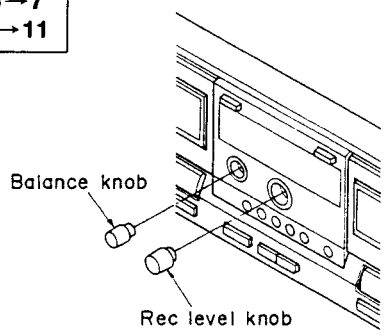


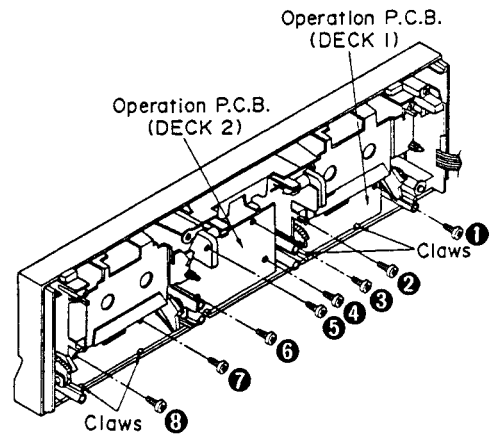




1. Remove the 2 screws (❶, ❷).
2. Remove the damper gear ass'y (L) and damper gear ass'y (R).
3. Remove the spring in the direction of arrow Ⓐ.
4. Remove the ribs in the direction of arrow Ⓑ.
5. Remove the cassette holder in the direction of arrow Ⓒ.

| Ref. No. 11 | Removal of the Operation (DECK 1) P.C.B. and Operation (DECK 2) P.C.B. |
|---|---|

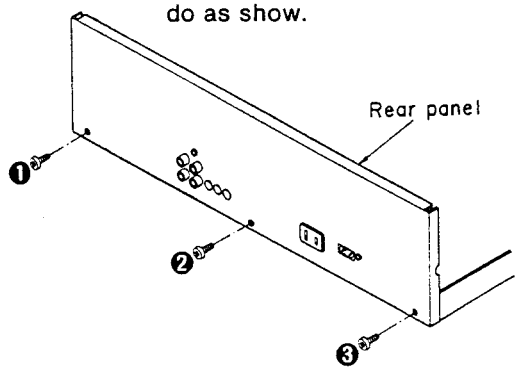
**Procedure 1→2→6→7→8→10→11**



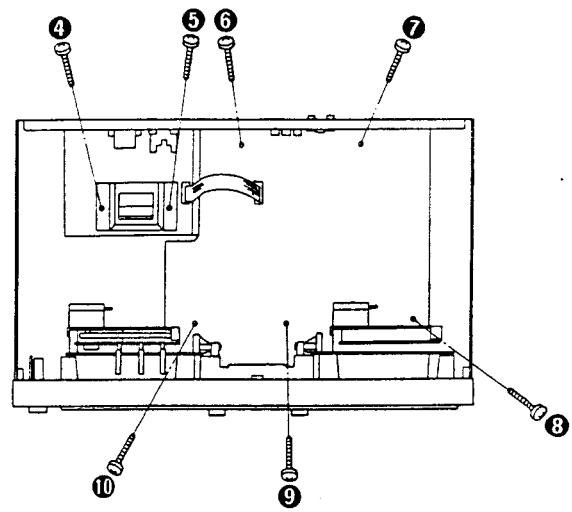




1. Remove the balance knob and rec level knob.
2. Remove the 8 screws (❶~❽).
3. Release the 4 claws.

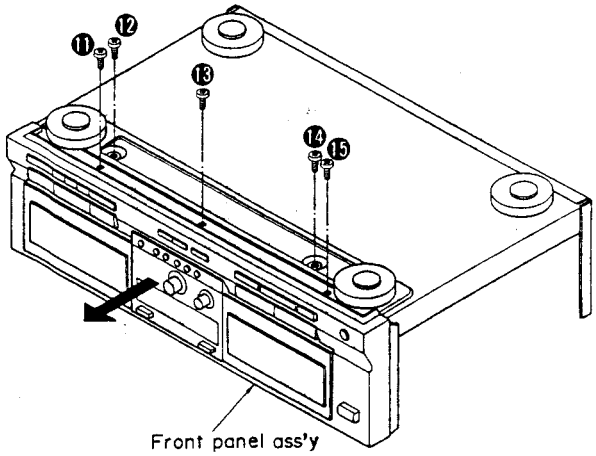
| Ref. No. 12 | How to check the Main P.C.B. |
|---|---|
| Procedure 1→12 | • When checking the soldered surfaces of main P.C.B. and replacing the parts, do as show. |



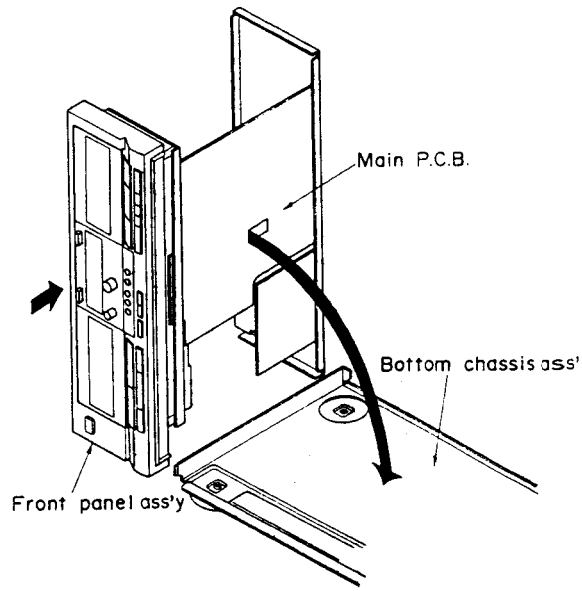

1. Remove the 3 screws (❶~❸).




2. Remove the 7 screws (❹~❿).




3. Remove the 5 screws (⓫~⓯).
4. Remove the front panel ass'y in the direction of arrow.




5. Remove the bottom chassis ass'y.
6. Reinstall the front panel to the main P.C.B.

# ■ MEASUREMENTS AND ADJUSTMENTS

### Measurement Condition

- Recording-level control; Maximum
- Recording-balance control; Center
- Reverse-mode selector switch; ⇄
- Edit-recording tape-speed selector switch; X1
- Dolby NR switch; Off
- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature 20±5°C (68±9°F)

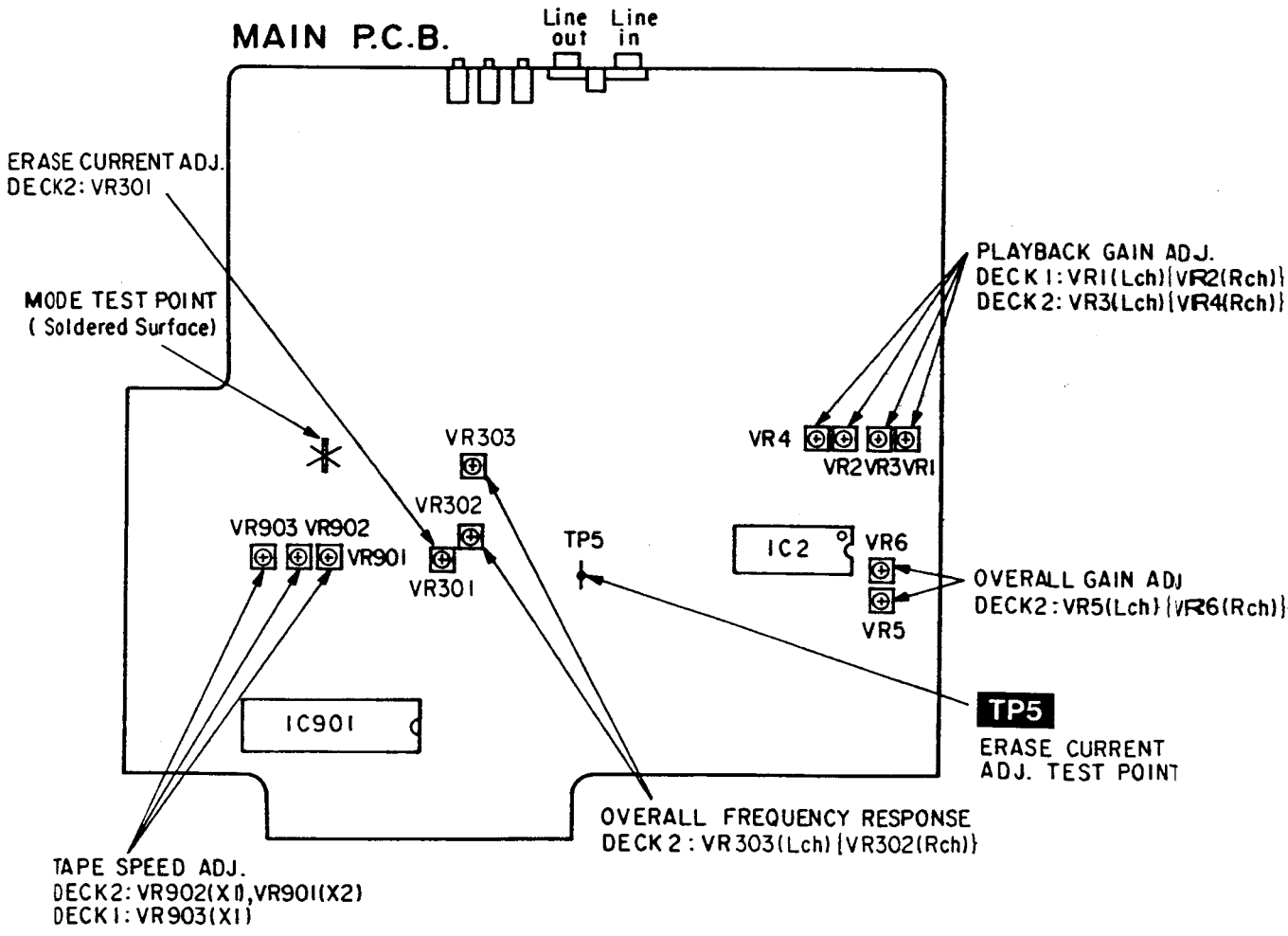
### Measuring instrument

- EVM (Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator
- ATT (Attenuator)
- DC voltmeter
- Resistor (600Ω)

### Test tape

- Head azimuth adjustment (8kHz, −20dB); QZZCFM
- Tape speed adjustment (3kHz, −10dB); QZZCWAT
- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz, −20dB); QZZCFM
- Overall frequency response, Overall gain adjustment, Erase current adjustment
  Normal reference blank tape; QZZCRA
  $CrO_2$ reference blank tape; QZZCRX
  Metal reference blank tape; QZZCRZ

## • Adjustment Points



## HEAD AZIMUTH ADJUSTMENT (DECK 1/2)

1. Playback the azimuth adjustment portion (8kHz, −20dB) of the test tape (QZZCFM). Vary the azimuth adjusting screw until the output of the R-CH are maximized.
2. Perform the same adjustment in the play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.

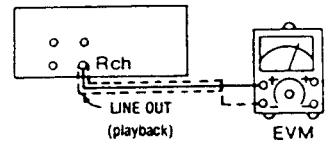



Fig. 1

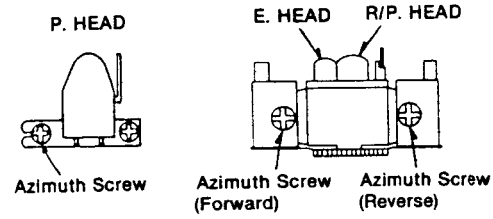



Fig. 2

## TAPE SPEED ADJUSTMENT (DECK 1/2)

**Normal speed**

1. Shift the edit-recording tape-speed selector switch to "**X1**" and press the synchro-start button.
2. Playback the middle portion of the test tape (QZZCWAT).
3. Adjust Deck 1=**VR903** and Deck 2=**VR902** so that the output is within the standard value.

**High speed**

4. Shift the edit-recording tape-speed switch selector to "**X2**" and press the synchro-start button.
5. Playback the middle portion of the test tape (QZZCWAT).
6. Adjust Deck 2=**VR901** so that the output is with in the standard value.

**Note:** The Normal speed adjustment must be done before the High speed adjustment.

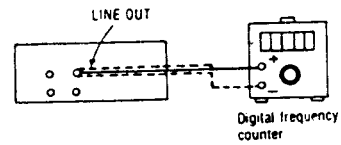



Fig. 3

**(DECK 1) Standard value: 3000±15Hz [Normal (X1)], 6000±600Hz [High (X2), only confirmation]**
**(DECK 2) Standard value: 3000±15Hz [Normal (X1)], DECK 1 measured value ±30 [High (X2)]**

## PLAYBACK GAIN ADJUSTMENT (DECK 1/2)

1. Playback the gain adjusted portion (315Hz, 0dB) of the test tape (QZZCFM).
2. Adjust Deck 1=**VR1** (L-CH) [[**VR2** (R-CH)]] and Deck 2=**VR3** (L-CH) [[**VR4** (R-CH)]] so that the output is within the standard value.

**Standard value: 0.4V±0.5dB**

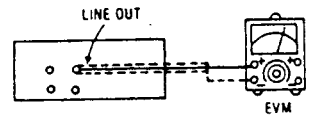



Fig. 4

## PLAYBACK FREQUENCY RESPONSE (DECK 1/2)

1. Playback the frequency response portion (315Hz, 12.5kHz~63Hz, −20dB) of the test tape (QZZCFM).
2. Assure that the frequency response is within the range shown in **Fig. 6** for both L-CH and R-CH.

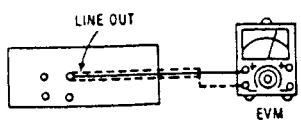



Fig. 5

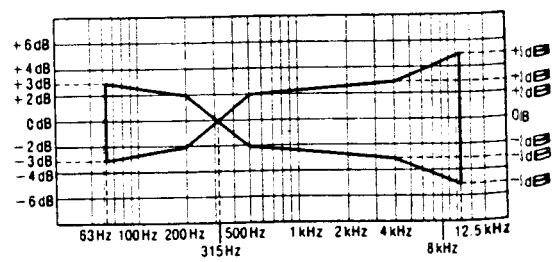



Fig. 6

## ERASE CURRENT ADJUSTMENT (DECK 2)

1. Insert the Metal blank test tape (QZZCRZ) and set the unit to the Record Pause mode.
2. Adjust **VR301** so that the output between **TP5** and GND is within the standard value.

**Standard value: 190±5mA (Metal)...EVM Reading: 190±5mV**

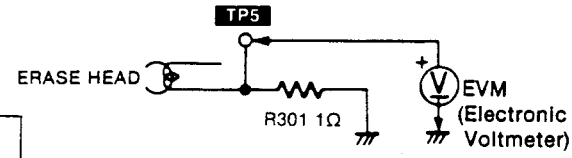



Fig. 7

## OVERALL FREQUENCY RESPONSE (DECK 2)

1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record Pause mode.
2. Apply a reference input signal (1kHz, −24dB) through an attenuator.
3. Attenuate the signal by 20dB and adjust the frequency from 50Hz~10kHz.
4. Record the frequency sweep.
5. Playback the recorded signal and assure that it is within the range shown in **Fig. 8** in comparison to the reference frequency (1kHz).
6. If it is not within the standard range, adjust **VR303** (L-CH) and **VR302** (R-CH) so that the frequency level is within the standard range.
   - Level up in high frequency range..... Increase the bias current.
   - Level down in high frequency range..... Decrease the bias current.
7. Repeat steps 2~6 above using the $CrO_2$ tape (QZZCRX) and the Metal tape (QZZCRZ) increasing the frequency range to 12.5kHz (50Hz~12.5kHz).
8. Assure that the level is within the range shown in **Fig. 9.**

**Normal Overall frequency response chart (NR OUT)**

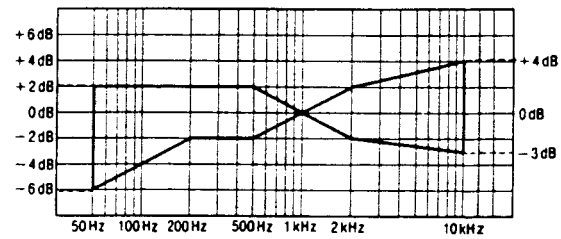



Fig. 8

**$CrO_2$ Metal Overall frequency response chart (NR OUT)**

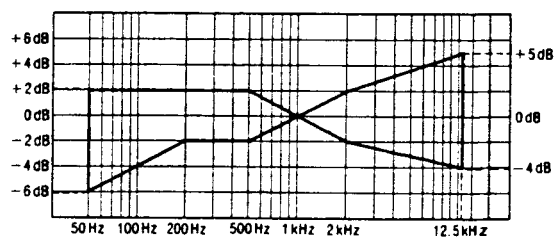



Fig. 9

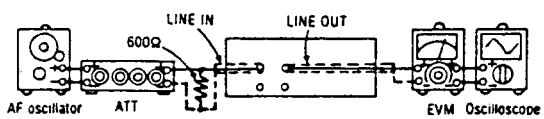



Fig. 10

## OVERALL GAIN ADJUSTMENT (DECK 2)

1. Insert the Normal blank test tape (QZZCRA) and set the unit to the Record pause mode.
2. Apply a reference input signal (1kHz, −24dB). Attenuate the output so that its level becomes 0.4V.
3. Record this input signal.
4. Playback the signal recorded in step 3 above, and assure that the output is within the standard value.
5. If it is not within the standard value, adjust **VR5** (L-CH) and **VR6** (R-CH).
6. Repeat the step 2~5 above until the output is within the standard value.

**Standard value: 0.4V±0.5dB**

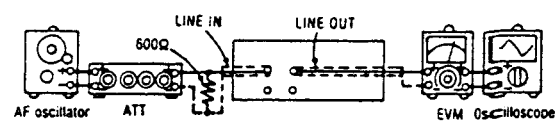



Fig. 11

# ■ TERMINAL FUNCTION OF IC

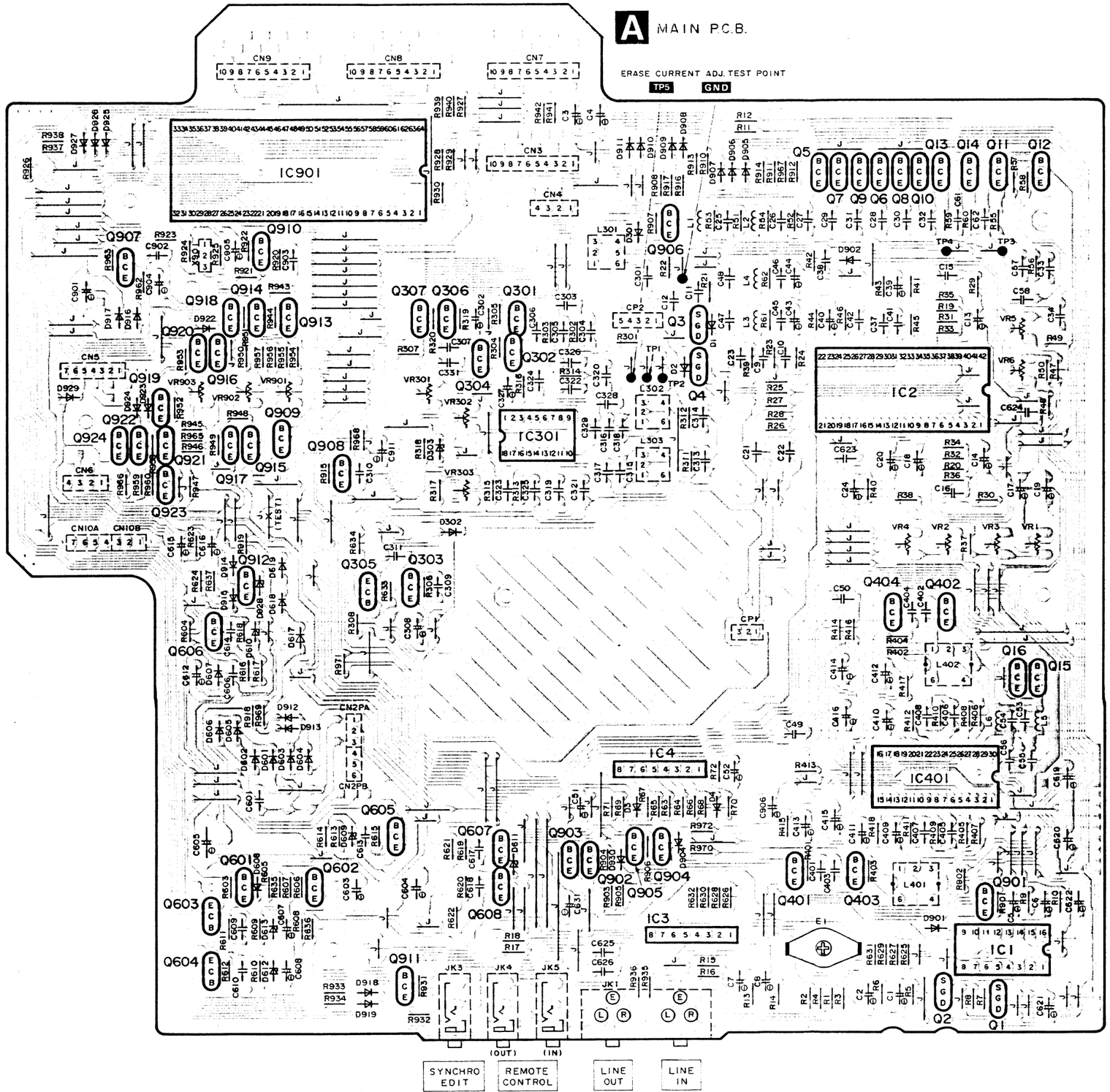
## •IC901 (M50942-502SP): MICROCOMPUTER

| Pin No. | Mark | I/O | Description |
|---|---|---|---|
| 1 | $V_{REF}$ | I | Standard voltage terminal (5 V) |
| 2 | $\overline{1\ WAY}$ REV | I | Model select input terminal<br>D1 1 Way..."L", D1 Reverse..."H" |
| 3 | INH | I | Deck 2 Forward/Reverse Rec. Inh. switch select terminal |
| 4 | QUI2 | I | Connected to GND |
| 5 | QUI1 | | |
| 6 | R IN | I | Line signal level input terminal |
| 7 | L IN | | |
| 8 | KEY 2 | I | Key switch scan (DECK 1 STOP, CUE/REV., F. PLAY, REVERSE MODE, C-RES 2) |
| 9 | KEY 1 | I | Key switch scan (DECK 2: STOP, CUE/REV., F. PLAY, R. PLAY, REC., PAUSE S. START, ×1, ×2, DOLBY B, C NR) |
| 10 | $\overline{B}$ | O | Dolby NR amp. select terminal<br>DOLBY "B"..."L", etc..."H" |
| 11 | $\overline{C}$ | O | DOLBY NR amp. select terminal<br>DOLBY "C"..."L", etc...."H" |
| 12 | ENC | O | Encode/Decode select terminal<br>•"H" level in encode mode.<br>•"L" level in decode mode. |
| 13 | $\overline{\times 2}$ | O | ×2 Speed select terminal<br>•"×2"..."L", etc...."H" |
| 14 | $\overline{TP2}$ | O | Deck 2 play select terminal<br>•"L" level with PLAY/CUE/REVIEW mode.<br>•"H" level with any other mode. |
| 15 | CRM | O | CUE/REV. mute terminal<br>•"L" level in muting is off mode.<br>•"H" level in muting is on mode. |
| 16 | RMT | O | Rec. amp. mute signal of deck 2<br>•"L" level in mute is off mode.<br>•"H" level in mute is on mode. |
| 17 | DMT | O | Line out mute terminal<br>•"L" level in muting is off mode.<br>•"OPEN" when muting is on mode. |
| 18 | REC | O | Rec. mode output terminal<br>•"L" level in REC. mode.<br>•"H" level in any other mode. |
| 19 | $\overline{REN}$ | O | Rec. Enable output terminal<br>•"L" level in REC. mode<br>•"H" level in any other mode |
| 20 | SYNC | I | Synchro start signal input terminal<br>•"L"...Synchro start |
| 21 | REEL 2 | I | Rotation pulse signal of reel table |
| 22 | REEL 1 | | |
| 23 | ARM | I | Auto rec. mute terminal<br>•"L"...key "on" |
| 24 | $\overline{POF}$ | I | Primary AC power detection terminal<br>•"L"...off |

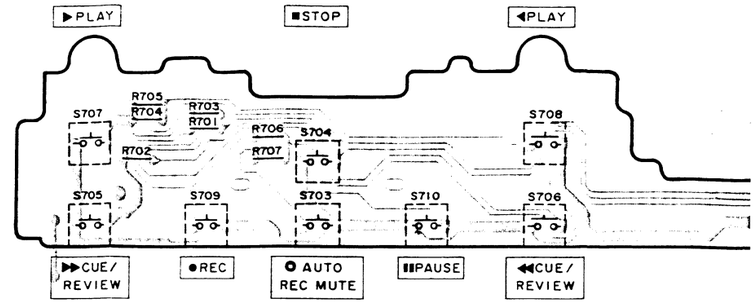
| Pin No. | Mark | I/O | Description |
|---|---|---|---|
| 25 | R.C | I | Remote control serial data terminal |
| 26 | CN $V_{SS}$ | I | Connected to Vss. |
| 27 | $\overline{RESET}$ | I | Reset input terminal<br>•"L"...Reset "on" |
| 28 | X IN | I | Clock OSC terminal (4 MHz) |
| 29 | X OUT | O | |
| 30 | XC IN | I | Connected to Vss |
| 31 | XC OUT | O | ——— |
| 32 | $V_{SS}$ | I | Connected to GND |
| 33 | Φ | O | ——— |
| 34 | MODE 2 | I | Deck 2 mechanism mode switch select terminal<br>•"L"...PLAY, CUE/REV. mode |
| 35 | HALF 2 | I | Deck 2 cassette half detection switch<br>•"L" level in half detection switch in on mode.<br>•"H" level in half detection switch in off mode. |
| 36 | MODE 1 | I | Deck 1 mechanism mode switch select terminal<br>•"L"...PLAY, CUE/REV. mode |
| 37 | HALF 1 | I | Deck 1 cassette half detection switch<br>•"L" level in half detection switch is on mode.<br>•"H" level in half detection switch is off mode. |
| 38 | VP | I | Pull down power supply terminal ($-V_{CC}$) |
| 39 | SPD 2 | O | Deck 2 motor speed select terminal<br>•"L" level in "×2" mode<br>•"H" level in "×1" mode |
| 40 | CAP 2 | O | Deck 2 motor ON/OFF control terminal<br>•"H" level in "ON" |
| 41 | SOL 2 | O | Deck 2 solenoid ON/OFF control terminal<br>•"H" level in "ON" |
| 42 | SPD 1 | O | Deck 1 motor speed select terminal<br>•"L" level in "×2" mode<br>•"H" level in "×1" mode |
| 43 | CAP 1 | O | Deck 1 motor ON/OFF control terminal<br>•"H" level in "ON" |
| 44 | SOL 1 | O | Deck 1 solenoid ON/OFF control terminal<br>•"H" level in "ON" |
| 45 ≀ 56 | I ≀ a | O | Segment signal for FL display |
| 57 ≀ 62 | G6 ≀ G1 | O | Grid signal for FL display |
| 63 | AVcc | I | Power supply terminal (A/D) |
| 64 | Vcc | I | Power supply terminal |

# ■PRINTED CIRCUIT BOARDS

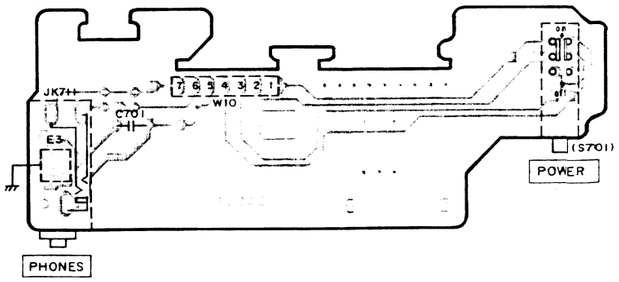
## A MAIN P.C.B.



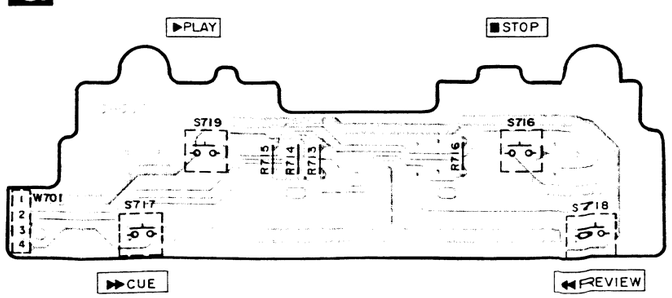

## H OPERATION (DECK2) P.C.B.

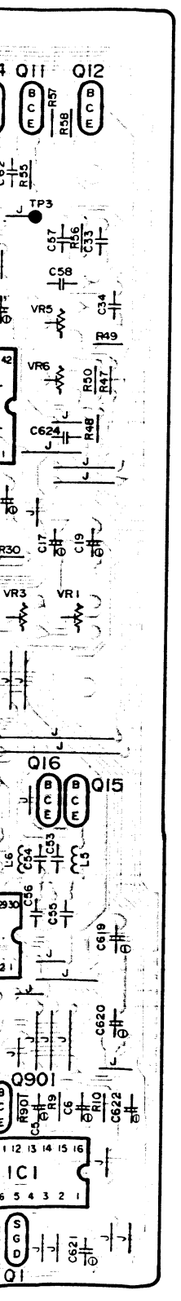



## E POWER SWITCH/HEADPHONES JACK P.C.B.

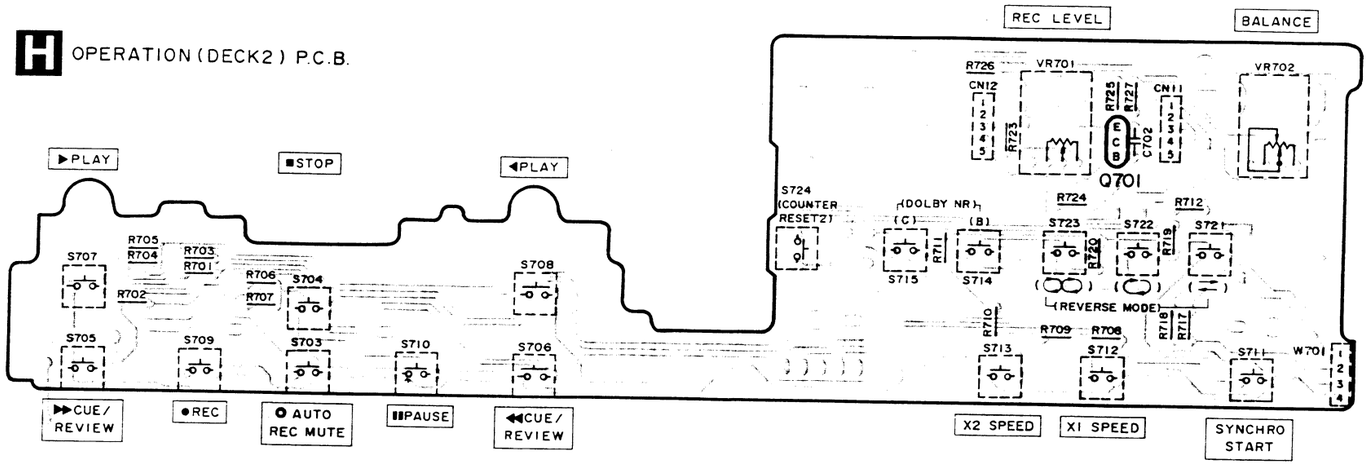



## G OPERATION (DECK1) P.C.B.

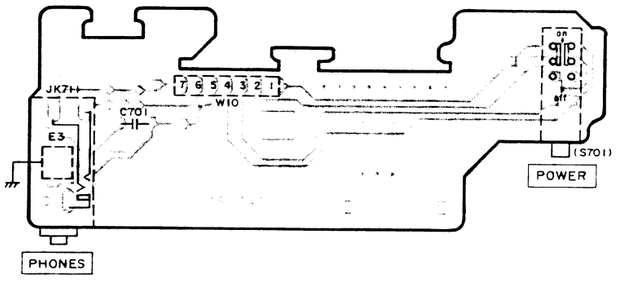




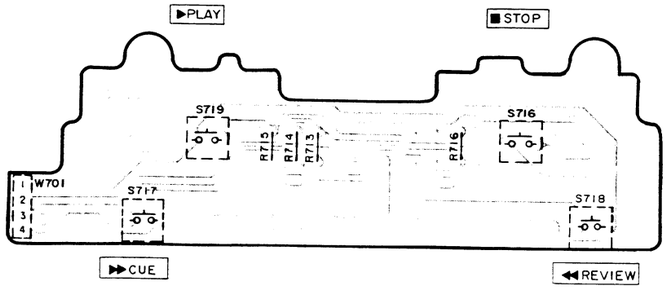

## H OPERATION (DECK2) P.C.B.



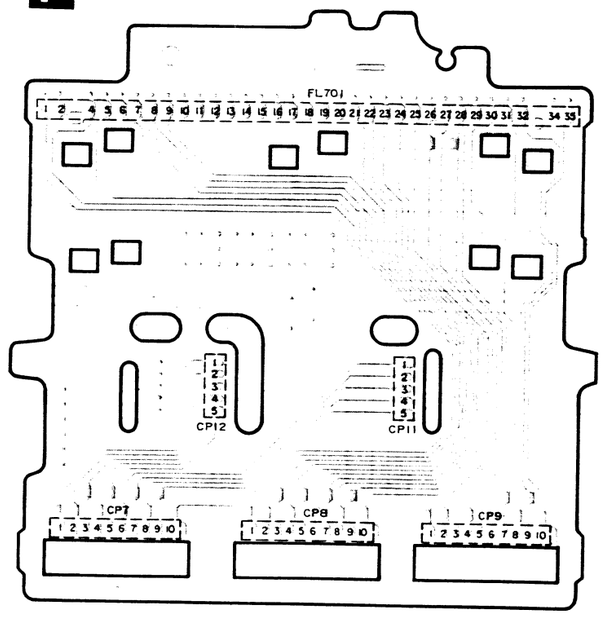

## E POWER SWITCH/HEADPHONES JACK P.C.B.



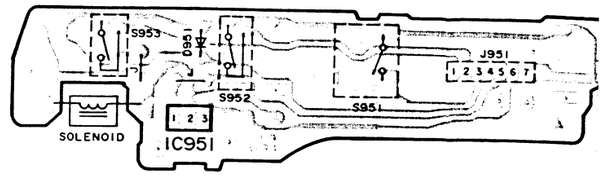

## G OPERATION (DECK1) P.C.B.



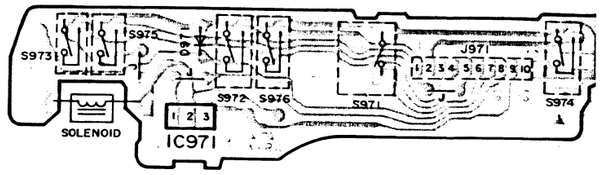

## F FL METER P.C.B.



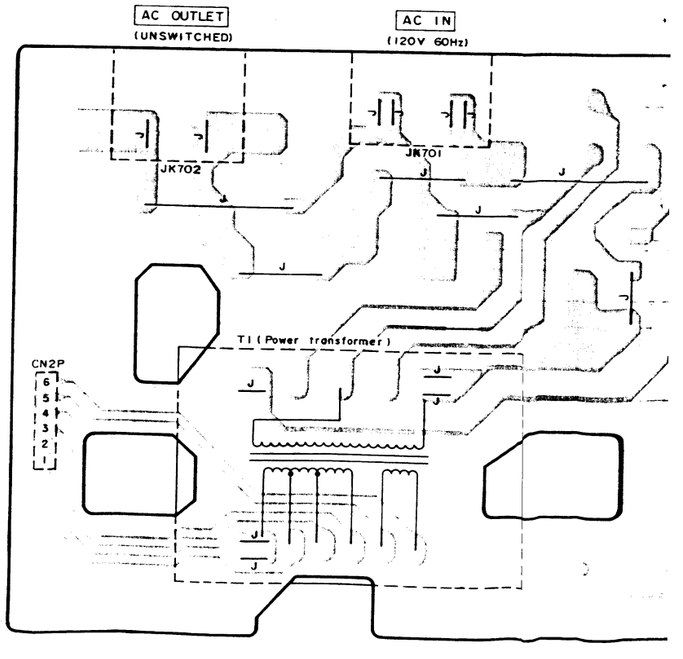

## D MECHANISM (DECK1) P.C.B.



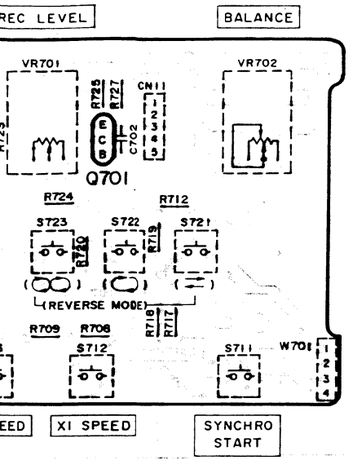

## C MECHANISM (DECK2) P.C.B.



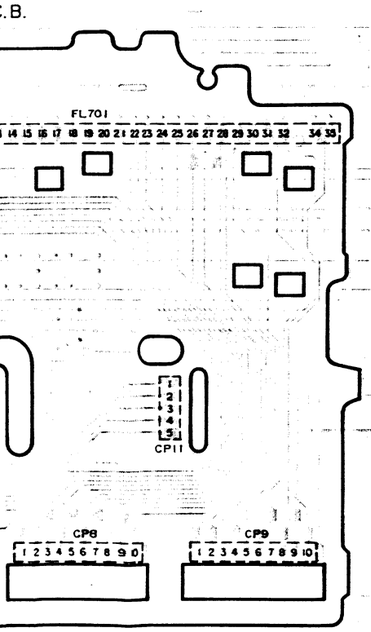

## B POWER SUPPLY P.C.B. For (P,PC) areas.



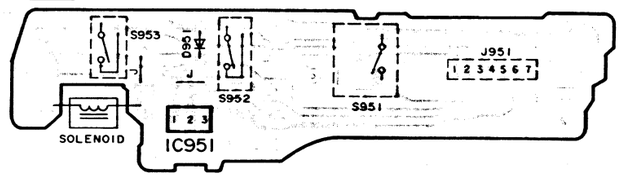
12 13 14 15 16 17 18 19 20 21



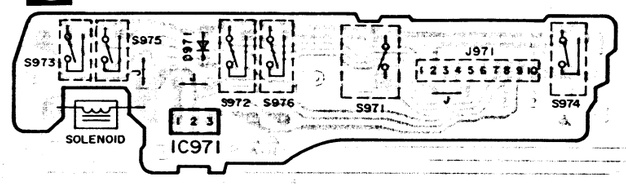

C.B.



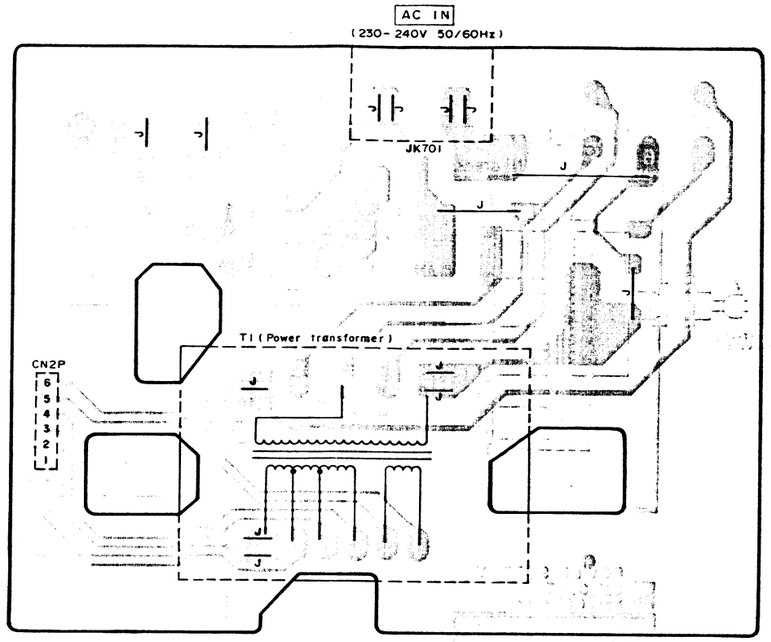

**D** MECHANISM ( DECK1 ) P.C.B.



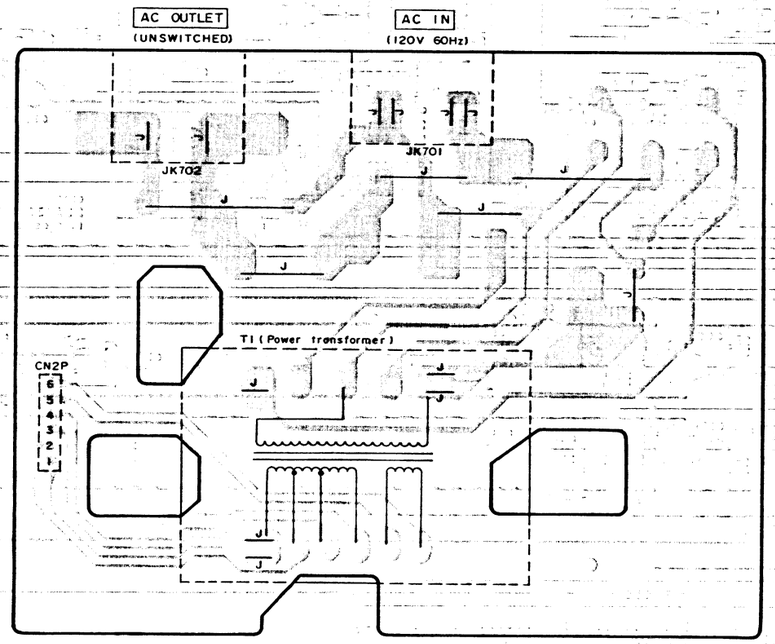

**C** MECHANISM ( DECK2 ) P.C.B.



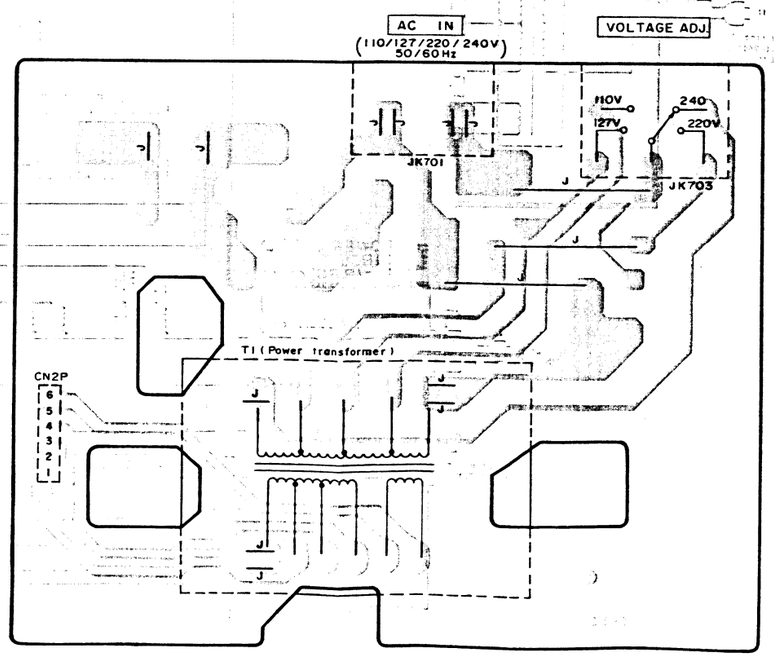

**B** POWER SUPPLY P.C.B. For [EB, EG, GN] areas.




**B** POWER SUPPLY P.C.B. For [P, PC] areas.




**B** POWER SUPPLY P.C.B. For [GC] area.

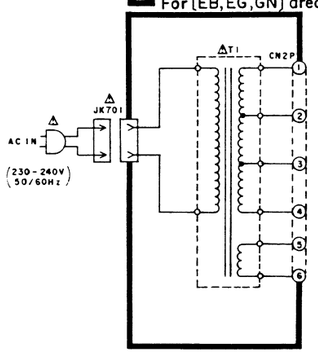


1 2 3 4 5 6 7 8 9 10

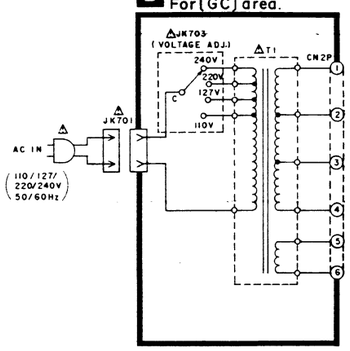
A B C D E F G

**A** MAIN CIRCUIT

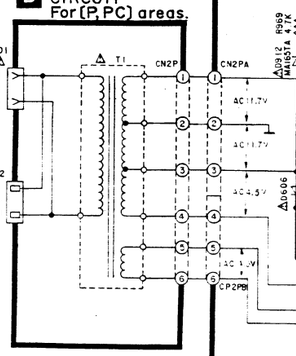
**B** POWER SUPPLY CIRCUIT For [EB,EG,GN] areas.




**B** POWER SUPPLY CIRCUIT For [GC] area.




**B** POWER SUPPLY CIRCUIT For [P,PC] areas.




DECK 1
L ch
PLAYBACK HEAD
R ch
DECK 2
R ch
R/P HEAD
L ch
ERASE HEAD

LINE IN
L ch
R ch

Q901 2SC3311AQSTA REC LEVEL CONT.

Q1, 2 2SJ164PQRTA REC MUTE

IC1 AN7384N-A ELECTRIC VOLUME

Q3, 4 2SJ164PQRTA HEAD SELECT (PLAY ON)

IC2 AN7351K PLAYBACK/REC AMP

PLAYBACK GAIN ADJ (Rch, DECK 1)

PLAYBACK GAIN ADJ (Rch, DECK 2)

Q5~8 2SA1309AQSTA REC EQ(X2/CrO2/METAL)

Q9~14 2SC33 REC EQ(

OVERALL GAIN ADJ (L ch)

Q906 DTA114ESTP SWITCHING(X2)

OVERALL GAIN ADJ (Rch)

Q304 KSD471ACYGTA BIAS OSC CONT.

IC301 UPC1297CA DOLBY HX PRO

OVERALL FREQUENCY RESPONSE ADJ (Rch)

OVERALL FREQUENCY RESPONSE ADJ (L ch)

TP5 GND

Q301, 302 2SC3311AQSTA BIAS OSC

Q306, 307 DTA114YSTP BIAS CONTROL

Q302 Q301 Q307 Q306 Q303 2SA1309AQSTA BIAS OSC CONT.

Q909 DTC114ESTP SWITCHING (REC ON)

Q908 2SB621ARSTA BIAS OSC CONT.

Q608 2SA1309 REGULATOR

Q912 DTC114ESTP SWITCHING

Q305 2SB1357EFTA ERASE CURRENT CONT.

ERASE CURRENT ADJ.

Q605 KSD471ACYGTA REGULATOR

TAPE SPEED ADJ (X2, DECK 2)

TAPE SPEED ADJ (X1, DECK 2)

Q913, 919 2SB621ARSTA SOLENOID DRIVE

Q914, 920 DTC114ESTP SOLENOID DRIVE

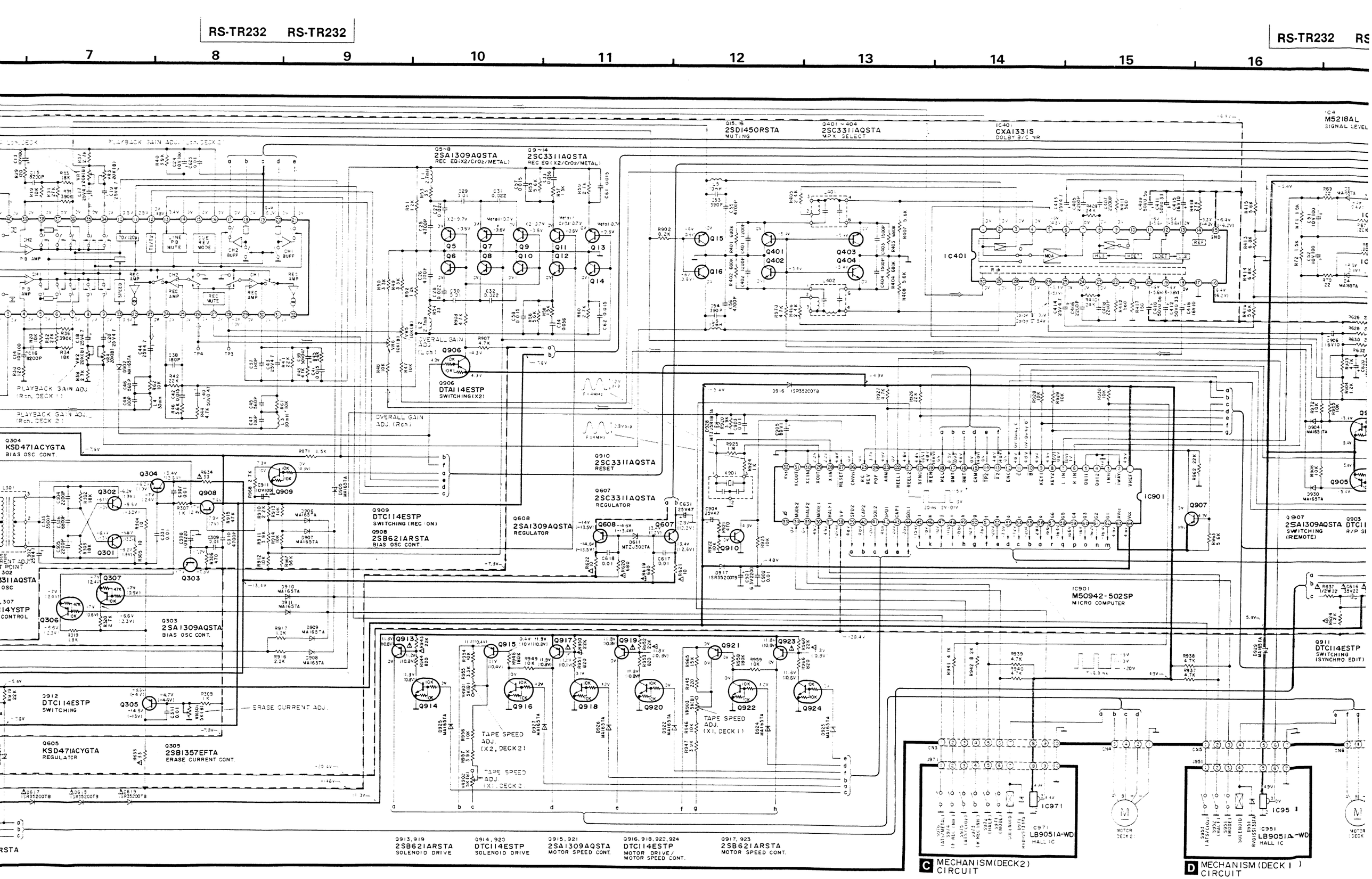
Q601 2SA1309AQSTA STABILIZER

Q602 2SC3311AQSTA STABILIZER

Q603 2SD2037EFTA REGULATOR

Q604 2SB1357EFTA REGULATOR

Q606 2SB621ARSTA REGULATOR


Q5~8
2SA1309AQSTA
REC EQ(X2/CrO2/METAL)
Q9~14
2SC3311AQSTA
REC EQ(X2/CrO2/METAL)
Q15,16
2SD1450RSTA
MUTING
Q401~404
2SC3311AQSTA
MPX SELECT
IC401
CXA1331S
DOLBY B/C NR
IC4
M52184L
SIGNAL LEVEL
PLAYBACK GAIN ADJ. (Rch, DECK 1)
PLAYBACK GAIN ADJ. (Rch, DECK 2)
OVERALL GAIN ADJ. (Rch)
Q906
DTA114ESTP
SWITCHING(X2)
Q304
KSD471ACYGTA
BIAS OSC CONT.
Q910
2SC3311AQSTA
RESET
Q607
2SC3311AQSTA
REGULATOR
Q608
2SA1309AQSTA
REGULATOR
Q909
DTC114ESTP
SWITCHING (REC ON)
Q908
2SB621ARSTA
BIAS OSC CONT.
Q303
2SA1309AQSTA
BIAS OSC CONT.
Q912
DTC114ESTP
SWITCHING
Q605
KSD471ACYGTA
REGULATOR
Q305
2SB1357EFTA
ERASE CURRENT CONT.
ERASE CURRENT ADJ.
IC901
M50942-502SP
MICRO COMPUTER
Q907
2SA1309AQSTA
SWITCHING (REMOTE)
Q903
DTC1
R/P SI
Q911
DTC114ESTP
SWITCHING (SYNCHRO EDIT)
TAPE SPEED ADJ. (X2, DECK2)
TAPE SPEED ADJ. (X1, DECK2)
TAPE SPEED ADJ. (X1, DECK1)
Q913,919
2SB621ARSTA
SOLENOID DRIVE
Q914,920
DTC114ESTP
SOLENOID DRIVE
Q915,921
2SA1309AQSTA
MOTOR SPEED CONT.
Q916,918,922,924
DTC114ESTP
MOTOR DRIVE/ MOTOR SPEED CONT.
Q917,923
2SB621ARSTA
MOTOR SPEED CONT.
C MECHANISM(DECK2) CIRCUIT
D MECHANISM(DECK1) CIRCUIT
IC971
C971
LB9051A-WD
HALL IC
IC951
C951
LB9051A-WD
HALL IC
MOTOR DECK2
MOTOR DECK1

12 13 14 15 16 17 18 19 20 21

Q15,16
2SD1450RSTA
MUTING

Q401 ~ 404
2SC3311AQSTA
MPX SELECT

IC401
CXA1331S
DOLBY B/C NR

IC4
M5218AL
SIGNAL LEVEL DET.

IC3
M5218AL
HEADPHONES AMP

E POWER SWITCH/ HEADPHONES JACK CIRCUIT

F FL METER CIRCUIT

IC901
M50942-502SP
MICRO COMPUTER

Q902
DTA114ESTP
R/P SELECT

Q904, 905
DTA114ESTP
SWITCHING
(DOLBY B/C)

Q907
2SA1309AQSTA
SWITCHING
(REMOTE)

Q903
DTC114ESTP
R/P SELECT

Q911
DTC114ESTP
SWITCHING
(SYNCHRO EDIT)

Q701
2SC3311AQST A
REC LEVEL CONT.

Q917, 923
2SB621ARSTA
MOTOR SPEED CONT.

C MECHANISM(DECK2) CIRCUIT

D MECHANISM(DECK 1) CIRCUIT

G OPERATION(DECK1) CIRCUIT

H OPERATION(DECK 2) CIRCUIT

## ■ SCHEMATIC DIAGRAM (Parts list on pages 39~42.)

(This schematic diagram may be modified at any time with the development of new technology.)

**Notes:**

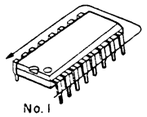
- JK703 : Voltage selector in "**240V**" position. (For [GC] area only.) (110V ↔ 127V ↔ 220V ↔ 240V)
- S701 : Power switch in "**on**" position (P, PC areas: POWER/■ OFF ▬ ON, Others areas: POWER/■ standby ⏻ ▬ ON).
- S703 : DECK 2 Automatic-record-muting switch (AUTO REC MUTE).
- S704 : DECK 2 Stop switch (■ STOP).
- S705 : DECK 2 Fast-forward/cue switch (▶▶ CUE).
- S706 : DECK 2 Rewind/review switch (◀◀ REVIEW).
- S707 : DECK 2 Forward-side playback switch (▶ PLAY).
- S708 : DECK 2 Reverse-side playback switch (◀ PLAY).
- S709 : DECK 2 Record switch (● REC).
- S710 : DECK 2 Pause switch (▮▮ PAUSE).
- S711 : Synchro-start switch (SYNCHRO START).
- S712 : Edit-recording tape-speed selector switch (X1 SPEED).
- S713 : Edit-recording tape-speed selector switch (X2 SPEED).
- S714 : Dolby noise-reduction selector switch (Dolby NR; B).
- S715 : Dolby noise-reduction selector switch (Dolby NR; C).
- S716 : DECK 1 Stop switch (■ STOP).
- S717 : DECK 1 Fast-forward/cue switch (▶▶ CUE).
- S718 : DECK 1 Rewind/review switch (◀◀ REVIEW).
- S719 : DECK 1 Forward-side playback switch (▶ PLAY).
- S721 : Reverse-mode switch (REVERSE MODE; ⟶).
- S722 : Reverse-mode switch (REVERSE MODE; ⟲).
- S723 : Reverse-mode switch (REVERSE MODE; ⟳⟲).
- S724 : DECK 2 Tape counter reset 2 switch (COUNTER RESET 2).
- S951 : DECK 1 Mode switch "**off**" position.
- S952 : DECK 1 Cassette half detection switch in "**off**" position.
- S953 : DECK 1 ATS ($CrO_2$) switch in "**off**" position.
- S971 : DECK 2 Mode switch in "**off**" position.
- S972 : DECK 2 Cassette half detection switch in "**off**" position.
- S973 : DECK 2 Reverse rec. inhibit switch in "**off**" position.
- S974 : DECK 2 Forward rec. inhibit switch in "**off**" position.
- S975 : DECK 2 ATS ($CrO_2$) switch in "**off**" position.
- S976 : DECK 2 ATS (Metal) switch in "**off**" position.
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise. 1K=1,000 (Ω), 1M=1,000k (Ω)
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.
  ( ).....Voltage values at record mode.
  For measurement us EVM.
- Important safety notice
  Components identified by ⚠ mark have special characteristics important for safety.
  When replacing any of these components, use only manufacturer's specified parts.
- ( ▬▬▬ <+B> ▬▬▬ ) indicates +B (bias).
- ( ▬ ▬ ▬ <−B> ▬ ▬ ▬ ) indicates −B (bias).
- ( ⟿ ) indicates the flow of the playback signal.
- ( ⟹ ) indicates the flow of the record signal.
- The supply part number is described alone in the replacement parts list.

| Ref. No. | Production Part No. | Supply Part No. |
|---|---|---|
| IC1 | AN7384N-A | AN7384 |
| IC3, 4 | M5218AL | M5218L |

***Caution!**

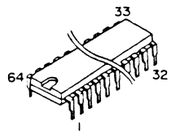
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
*Cover the parts boxes made of plastics with aluminum foil.
*Ground the soldering iron.
*Put a conductive mat on the work table.
*Do not touch the legs of IC or LSI with the fingers directly.

## ■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

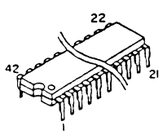



| | |
|---|---|
| AN7384N-A | 16 Pin |
| UPC1297CA | 18 Pin |
| CXA1331S | 30 Pin |

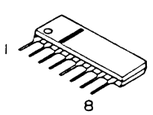
M50942-502SP



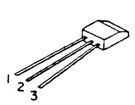

AN7351K

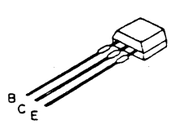



M5218AL



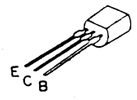

LB9051A-WD



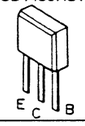




DTA114YSTP
DTA114ESTP
DTC114ESTP

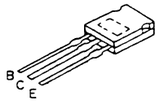
2SB621ARSTA
KSD471ACYGTA



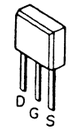

2SA1309AQSTA
2SC3311AQSTA
2SD1450RSTA

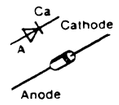



2SB1357EFTA
2SD2037EFTA



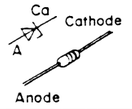

2SJ164PQRTA



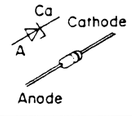




MA165TA
MA167TA
1SR35200TB
RVD1SS133TA

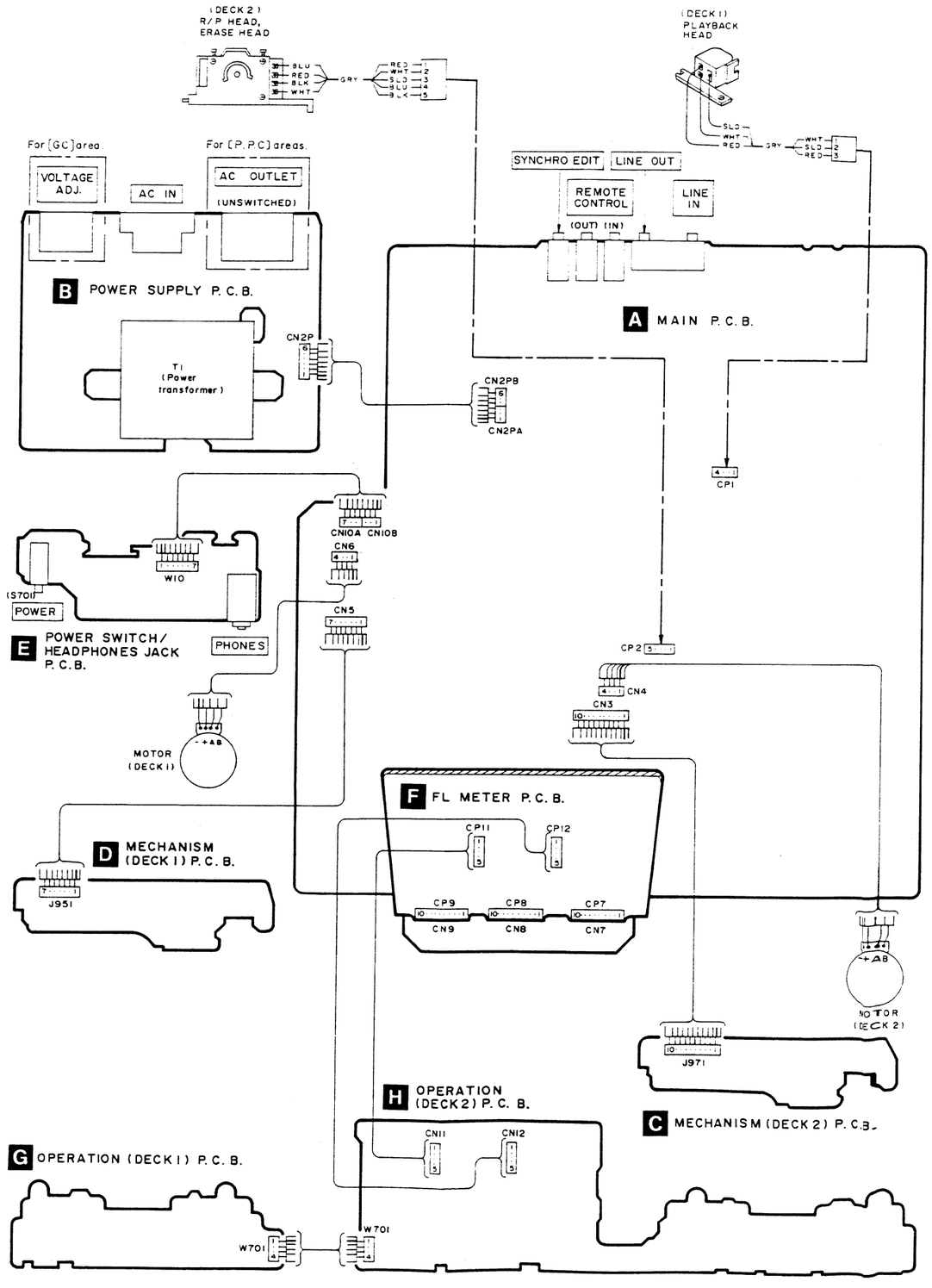
MTZJ5R1BTA
MTZJ6R2BTA
MTZJ8R2CTA



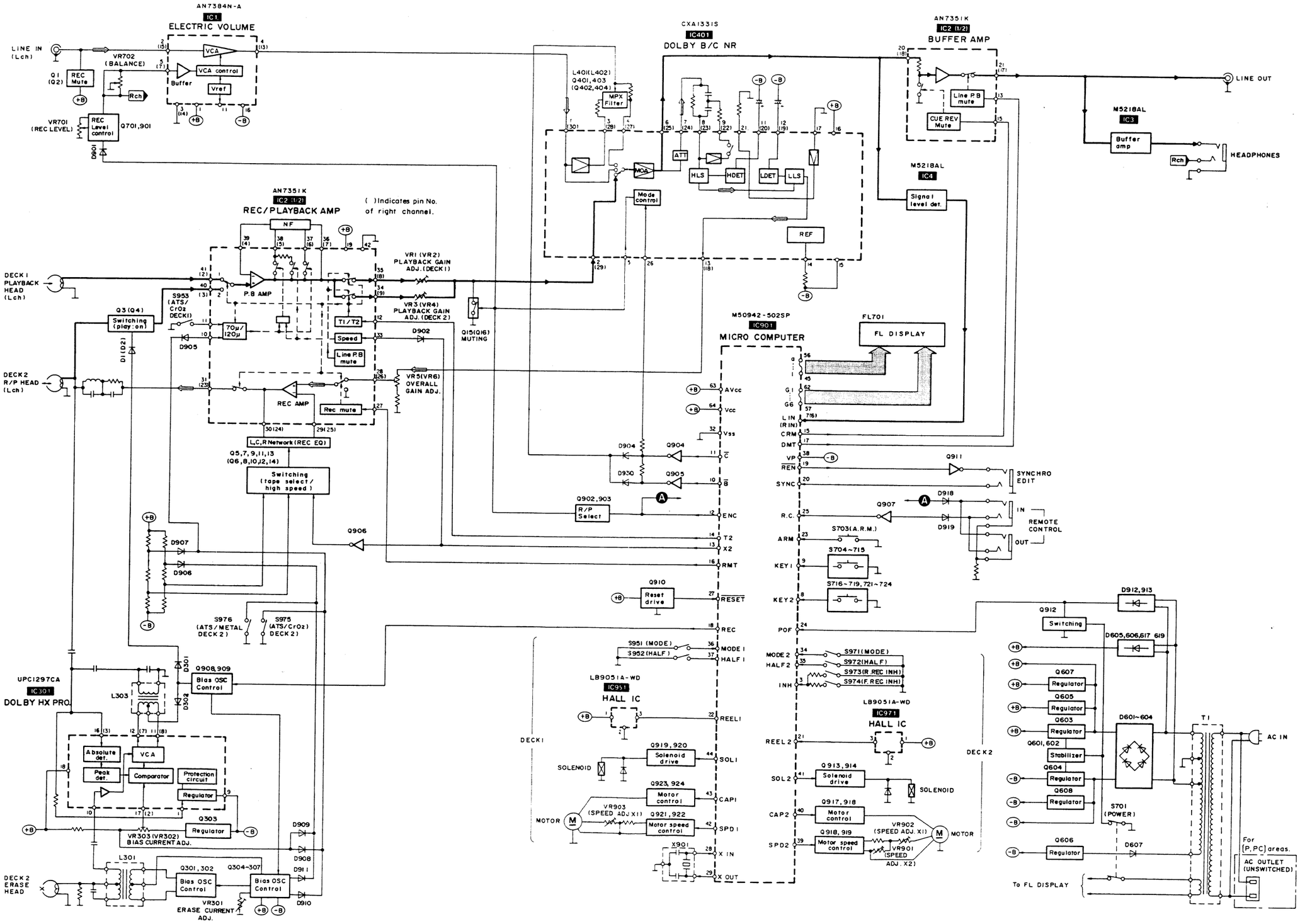

MTZJ20DTA
MTZJ30DTA




## ■ WIRING CONNECTION DIAGRAM



# ■ BLOCK DIAGRAM

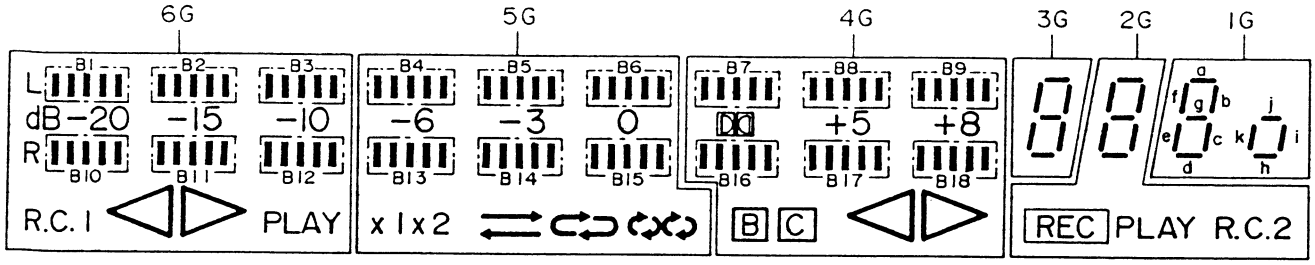



**Notes:**

- ⟶ Playback signal
- ⟹ Recording signal

# ■ INTERNAL CONNECTION OF FL

## • Grid connection diagram




## • Anode connection table

| | 6G | 5G | 4G | 3G | 2G | 1G |
|---|---|---|---|---|---|---|
| P1 | B1 | B4 | B7 | a | a | a |
| P2 | B2 | B5 | B8 | b | b | b |
| P3 | B3 | B6 | B9 | c | c | c |
| P4 | B10 | B13 | B16 | d | d | d |
| P5 | B11 | B14 | B17 | e | e | e |
| P6 | B12 | B15 | B18 | f | f | f |
| P7 | R.C. I | x 1 | B | g | g | g |
| P8 | ◁ | x 2 | C | — | REC | h |
| P9 | ▷ | ⇄ | ◁ | — | PLAY | i |
| P10 | PLAY | ⊂⊃ | ▷ | — | R.C.2 | j |
| P11 | — | ⊂⊃ | — | — | — | k |
| P12 | L dB-20 -15 -10 R | -6 -3 0 | ⊠ +5 +8 | — | — | — |

## • Pin connection

| PIN NO. | 35 | 34 | 33 | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONNECTION | F2 | F2 | NP | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9 | P10 | P11 | P12 | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC | 6G | 5G | 4G | 3G | 2G | 1G | NP | F1 | F1 |

**Note**

1) F1, F2 ..... Filament
2) NP ..... No pin
3) NC ..... No connection
4) 1G~6G ..... Grid

# ■ REPLACEMENT PARTS LIST

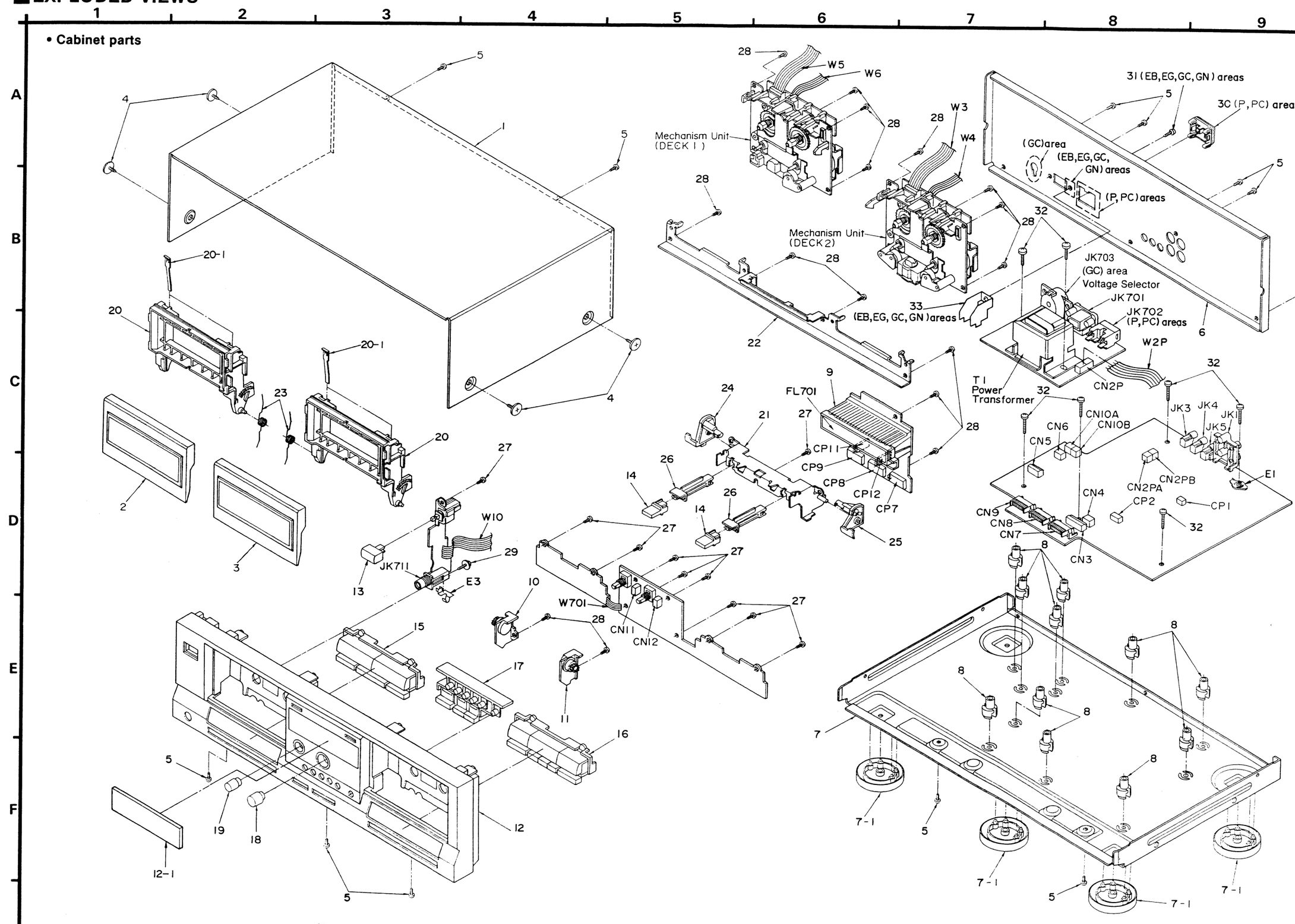
Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | | |
| | | CABINET AND CHASSIS | |
| | | | |
| 1 | RKMD016-K1 | CABINET | |
| 2 | RYF0119J-K | CASSETTE LID(DECK1) | |
| 3 | RYF0119B-K1 | CASSETTE LID(DECK2) | |
| 4 | SNE2129-1 | SCREW | |
| 5 | XTBS3+8JFZ1 | SCREW | |
| 6 | RGR0112A-F1 | REAR PANEL | (P, PC) |
| 6 | RGR0112E-A | REAR PANEL | (EG) |
| 6 | RGR0112E-B | REAR PANEL | (EB, GN) |
| 6 | RGR0112F-A | REAR PANEL | (GC) |
| 7 | RFKJSTR313PK | BOTTOM CHASSIS ASS'Y | |
| 7-1 | RKA0009-1 | FOOT | |
| 8 | RKQ0089 | P. C. B. HOLDER | |
| 9 | RMN0112 | FL HOLDER | |
| 10 | RFKNSDN7AK | DAMPER GEAR ASS'Y(L) | |
| 11 | RFKNSDN7BK | DAMPER GEAR ASS'Y(R) | |
| 12 | RFKGSTR232EB | FRONT PANEL ASS'Y | (EB, EG, GC, GN) |
| 12 | RFKGSTR232P | FRONT PANEL ASS'Y | (P, PC) |
| 12-1 | RKW0139A-K1 | TRANSPARENT PLATE | |
| 13 | RGU0030 | BUTTON, POWER | |
| 14 | RGU0070 | BUTTON, EJECT | |
| 15 | RGU0518A-K | BUTTON, OPERATION(DECK1) | |
| 16 | RGU0519A-K | BUTTON, OPERATION(DECK2) | |
| 17 | RFKNSTR232P | BUTTON ASS'Y, SYNCHRO | |
| 18 | RGW0109-K | KNOB, REC LEVEL | |
| 19 | RGW0110-K | KNOB, BALANCE | |
| 20 | RKF0169A-K | CASSETTE HOLDER | |
| 20-1 | QBP2006A | TAPE PRESSURE SPRING | |
| 21 | RMA0406 | EJECT ANGLE | |
| 22 | RMA0407 | MECHANISM ANGLE | |
| 23 | RME0068-1 | SPRING | |
| 24 | RML0185-1 | EJECT LEVER(L) | |
| 25 | RML0186-1 | EJECT LEVER(R) | |
| 26 | RMM0014 | EJECT ROD | |
| 27 | XTBS26+8J | SCREW | |
| 28 | XTB3+10JFZ | SCREW | |
| 29 | XTW3+10Q | SCREW | |
| 30 | SJS9331A | AC OUTLET COVER | (P, PC) |
| 31 | XTBS3+8JFZ1 | SCREW | (EB, EG, GC, GN) |
| 32 | XTB3+20JFZ | SCREW | |
| 33 | RMA0582 | BRACKET, P. TRANSFORMER | (EB, EG, GC, GN) |
| | | | |
| | | PACKING MATERIAL | |
| | | | |
| P1 | RPG1130 | CARTON BOX | (P) |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| P1 | RPG1131 | CARTON BOX | (PC) |
| P1 | RPG1132 | CARTON BOX | (EB, EG, GC, GN) |
| P2 | RPN0296 | CUSHION | |
| P3 | RPQ0164 | ACCESSORIES PAD | |
| P4 | XZB50X65A02Z | PROTECTION COVER(THIS UNIT) | |
| P5 | XZB24X34C04 | PROTECTION BAG(F. B., ACC.) | |
| | | | |
| | | ACCESSORIES | |
| | | | |
| A1 | RFKSSTR232EG | INSTRUCTION MANUAL ASS'Y | (EG) |
| A1 | RFKSSTR232PC | INSTRUCTION MANUAL ASS'Y | (PC) |
| A1 | RQT1365-P | INSTRUCTION MANUAL | (P) |
| A1 | RQT1367-G | INSTRUCTION MANUAL | (GC) |
| A1 | RQT1369-B | INSTRUCTION MANUAL | (EB, GN) |
| A2 | RQA0013 | WARRANTY CARD | (EB, EG) |
| A2 | RQX7433ZA | WARRANTY CARD | (GN) |
| A2 | SQX7179 | WARRANTY CARD | (P) |
| A2 | SQX7183 | WARRANTY CARD | (PC) |
| A3 | RQCB0169 | SERVICENTER LIST | (EB, EG, GC, GN) |
| A3 | SQX9129-1 | SERVICENTER LIST | (P) |
| A3 | SQX9131 | SERVICENTER LIST | (PC) |
| A4 | RJA0004 | AC POWER SUPPLY CORD | (GC)⚠ |
| A4 | RJA0019-1K | AC POWER SUPPLY CORD | (EG)⚠ |
| A4 | SJA172 | AC POWER SUPPLY CORD | (PC)⚠ |
| A4 | SJA173 | AC POWER SUPPLY CORD | (GN)⚠ |
| A4 | SJA175-1 | AC POWER SUPPLY CORD | (P)⚠ |
| A4 | SJA193 | AC POWER SUPPLY CORD | (EB)⚠ |
| A5 | SJP2249-3 | STEREO CONNECTION CABLE | |
| A6 | SJP2257T | STEREO MINI CABLE | |
| A7 | SJP9215 | POWER PLUG ADAPTOR | (GC)⚠ |
| A8 | RQLA0134 | CAUTION LABEL(VOL. SELECTOR) | (GC) |

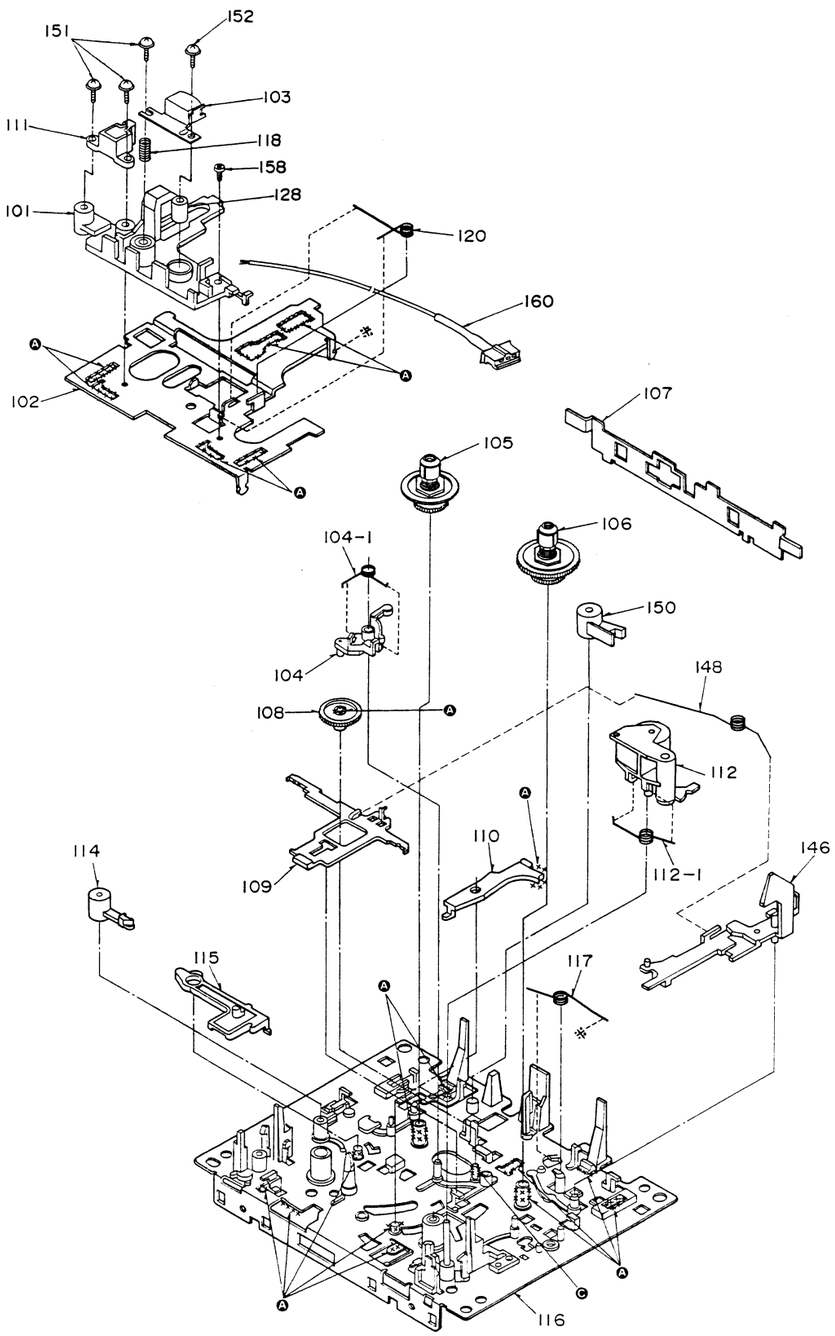
# ■EXPLODED VIEWS

• Cabinet parts

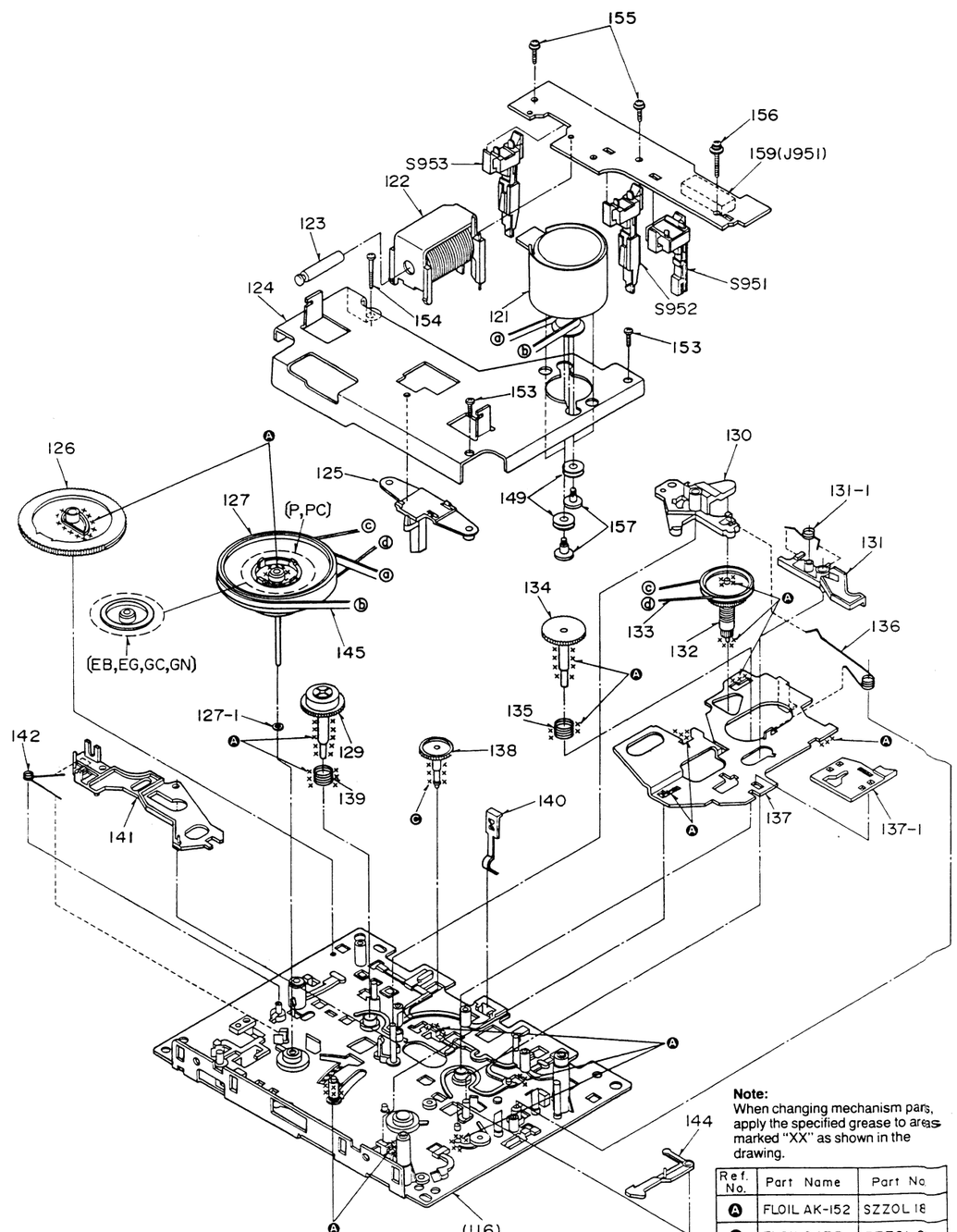


- **Mechanical parts**
- **DECK 1**

**(Top view)**




**(Bottom view)**




**Note:**
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

| Ref. No. | Part Name | Part No. |
|---|---|---|
| A | FLOIL AK-152 | SZZOL18 |
| C | FLOIL947P | RZZOL01 |

# ■ REPLACEMENT PARTS LIST

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | | |
| | | MECHANISM PARTS LIST | |
| | | | |
| DECK1 | | | |
| 101 | RMD5013ZD | HEAD ANGLE | |
| 102 | RUA793YC | HEAD BASE | |
| 103 | RJH4C35GYAM | PLAYBACK HEAD | |
| 104 | 1UB0089ZA | ARM | |
| 104-1 | RUW148ZA | SPRING | |
| 105 | 1DMD005ZA | REEL TABLE(R) | |
| 106 | 1DMD017ZB | REEL TABLE(F) | |
| 107 | RML0069-1 | LEVER | |
| 108 | RDG5772ZC | GEAR | |
| 109 | RUB508ZB | BRAKE ROD | |
| 110 | RUB506ZB | ROCK LEVER | |
| 111 | RUG82ZA | DAMMY HEAD | |
| 112 | 1UB0087ZB | ARM | |
| 112-1 | RUW140ZC | SPRING | |
| 114 | RNL1ZD | DAMPER ARM | |
| 115 | RUB503ZD | MAIN LEVER | |
| 116 | RZUAR300A | CHASSIS | |
| 117 | RUW142ZA | SPRING | |
| 118 | QBC1278A | SPRING | |
| 120 | RUW139ZA | SPRING | |
| 121 | RFM133ZA | DC MOTOR | |
| 122 | 1UE0015ZB | PLUNGER | |
| 123 | RUB428ZE | MOVING IRON CORE | |
| 124 | RUL1030YA | ANGLE | |
| 125 | RMD5014ZC | ANGLE | |
| 126 | RDG5927ZG | MAIN GEAR | |
| 127 | 1DW0037ZB | FLYWHEEL(F) | (P, PC) |
| 127 | 1DW0053ZB | FLYWHEEL(F) | (EB, EG, GC, GN) |
| 127-1 | RNW139ZA | WASHER | |
| 128 | RHM278ZA | SPACER | |
| 129 | 1DG0006ZB | REEL TABLE GEAR | |
| 130 | RUB513ZD | ARM | |
| 131 | 1UB0091ZA | LEVER | |
| 131-1 | RUW146ZA | SPRING | |
| 132 | 1DR0011ZB | MAIN PULLEY | |
| 133 | RDV90ZB | BELT | |
| 134 | RDG5769ZA | REEL TABLE GEAR | |
| 135 | RUQ111ZB | SPRING | |
| 136 | RUW145ZA | SPRING | |
| 137 | 1UB0090ZA | ROD | |
| 137-1 | RUB512ZB | ROD | |
| 138 | RDG5773ZB | GEAR | |
| 139 | RUQ112ZA | SPRING | |
| 140 | RUS609ZC | TAPE PRESSURE SPRING | |
| 141 | RUB514ZC | LEVER | |
| 142 | RUW147ZA | SPRING | |
| 144 | RUB509ZA | LEVER | |
| 145 | RDV109ZA | CAPSTAN BELT | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| 146 | RUB507ZD | EJECT ROD(R) | |
| 148 | RUW144ZA | SPRING | |
| 149 | RHG3032ZA | RUBBER CUSHION | |
| 150 | RNL180ZB | DAMPER ARM | |
| 151 | QHQ1361A | SCREW | |
| 152 | RHE5201ZA | SCREW | |
| 153 | XTN26+7J | SCREW | |
| 154 | RHE5203ZA | SCREW | |
| 155 | XTW2+8S | SCREW | |
| 156 | XYC2+JF16 | SCREW | |
| 157 | RHD26002 | SCREW | |
| 158 | XTN2+5F | SCREW | |
| 159 | RJS7T7ZA | CONNECTOR(7P), J951 | |
| 160 | REX0060 | LEAD WIRE BLOCK(3P) | |

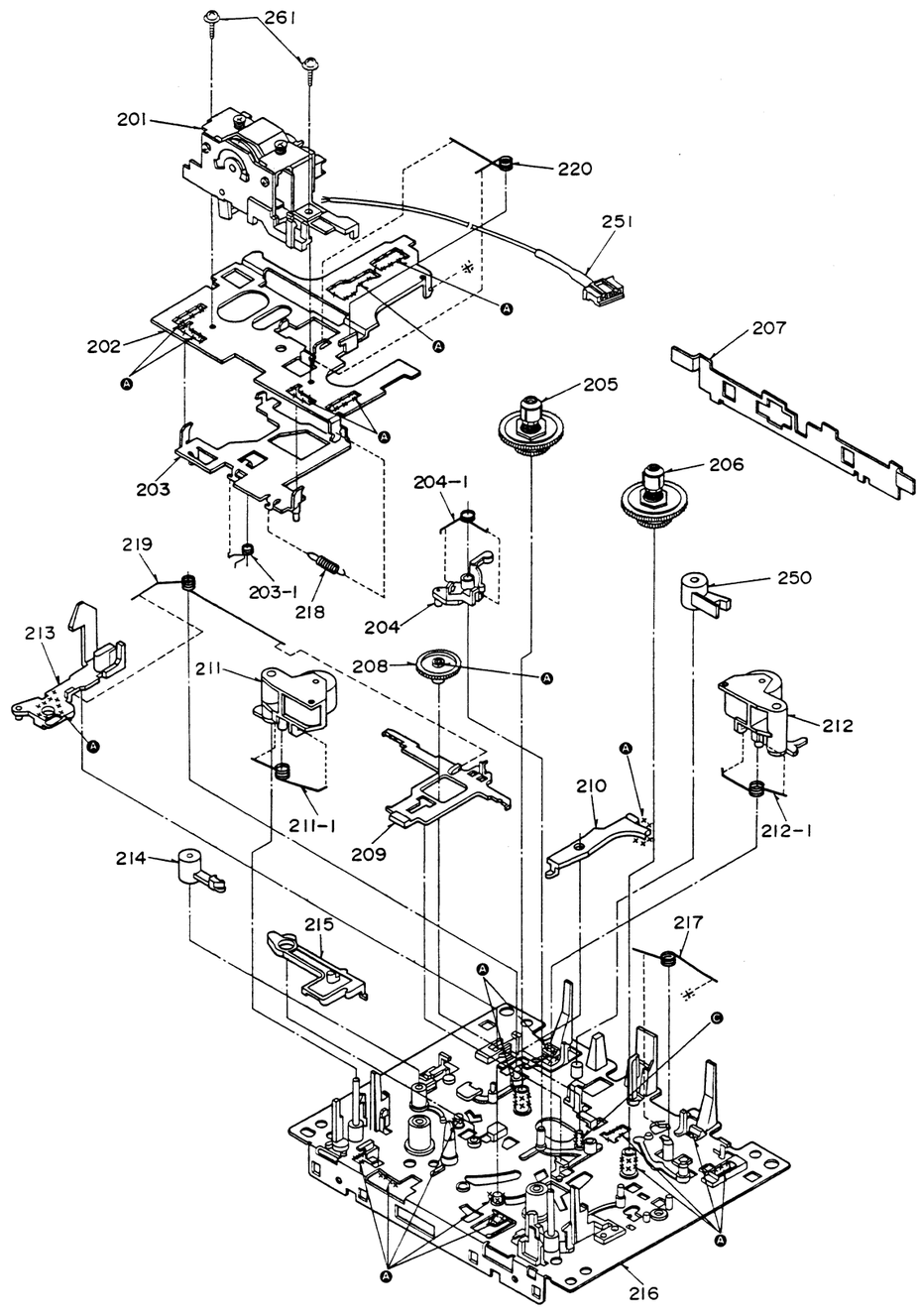
| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | | |
| | | MECHANISM PARTS LIST | |
| | | | |
| DECK2 | | | |
| 201 | RXQ0019 | HEAD BLOCK(REC./PLAYBACK) | |
| 202 | RUA793ZF | HEAD BASE | |
| 203 | RZLAR300A | ROD | |
| 203-1 | RUW143ZA | SPRING | |
| 204 | 1UB0089ZA | ARM | |
| 204-1 | RUW148ZA | SPRING | |
| 205 | 1DMD018ZB | REEL TABLE(R) | |
| 206 | 1DMD017ZB | REEL TABLE(F) | |
| 207 | RML0069-1 | LEVER | |
| 208 | RDG5772ZC | GEAR | |
| 209 | RUB508ZB | BRAKE ROD | |
| 210 | RUB506ZB | LEVER | |
| 211 | 1UB0088ZB | ARM(R) | |
| 211-1 | RUW141ZA | SPRING | |
| 212 | 1UB0087ZB | ARM(F) | |
| 212-1 | RUW140ZC | SPRING | |
| 213 | RUB541ZB | EJECT ROD(L) | |
| 214 | RNL1ZD | DAMPER ARM | |
| 215 | RUB503ZD | MAIN LEVER | |
| 216 | RZUSX980 | CHASSIS | |
| 217 | RUW142ZA | SPRING | |
| 218 | RUD105ZA | SPRING | |
| 219 | RUW167ZA | SPRING | |
| 220 | RUW139ZA | SPRING | |
| 221 | RFM133ZA | DC MOTOR | |
| 222 | 1UE0015ZB | PLUNGER | |
| 223 | RUB428ZE | MOVING IRON CORE | |
| 224 | RUL1030XB | ANGLE | |
| 225 | RMD5014ZC | ANGLE | |
| 226 | RDG5927ZG | GEAR | |
| 227 | 1DW0053ZB | FLYWHEEL(F) | |
| 227-1 | RNW139ZA | WASHER | |
| 228 | 1DW0054ZB | FLYWHEEL(R) | |
| 228-1 | RNW138ZA | WASHER | |
| 229 | 1DG0006ZB | REEL TABLE GEAR | |
| 230 | RUB513ZD | ARM | |
| 231 | 1UB0091ZA | LEVER | |
| 231-1 | RUW146ZA | SPRING | |
| 232 | 1DR0011ZB | MAIN PULLEY | |
| 233 | RDV90ZB | BELT | |
| 234 | RDG5769ZA | REEL TABLE GEAR | |
| 235 | RUQ111ZB | SPRING | |
| 236 | RUW145ZA | SPRING | |
| 237 | 1UB0090ZA | ROD | |
| 237-1 | RUB512ZB | ROD | |
| 238 | RDG5773ZB | GEAR | |
| 239 | RUQ112ZA | SPRING | |
| 240 | RUS609ZC | TAPE PRESSURE SPRING | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| 241 | RUB514ZC | LEVER | |
| 242 | RUW147ZA | SPRING | |
| 243 | RUB515ZA | LEVER | |
| 244 | RUB509ZA | LEVER | |
| 245 | RDV0015 | CAPSTAN BELT | |
| 249 | RHG3032ZA | RUBBER CUSHION | |
| 250 | RNL180ZB | DAMPER ARM | |
| 251 | REX0059 | LEAD WIRE BLOCK(5P) | |
| 261 | XTW2+6L | SCREW | |
| 263 | XTN26+7J | SCREW | |
| 264 | RHE5203ZA | SCREW | |
| 265 | XTW2+8S | SCREW | |
| 266 | XYC2+JF16 | SCREW | |
| 267 | RHD26002 | SCREW | |
| 268 | RJS10T7ZA | CONNECTOR(10P), J971 | |
| 269 | RHD26003 | SCREW | |

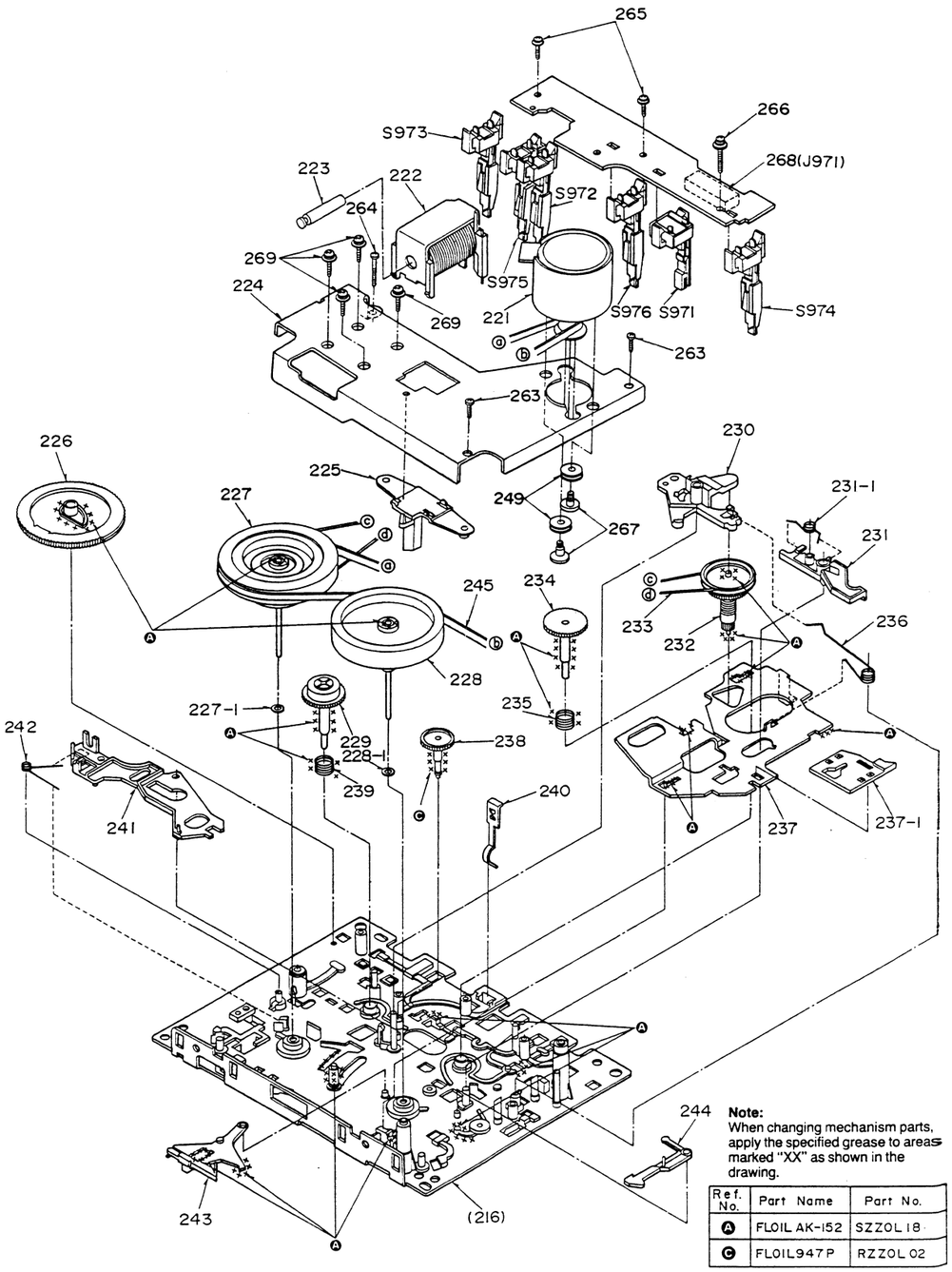
# ■EXPLODED VIEWS

- Mechanical parts
- DECK 2

(Top view)




(Bottom view)




**Note:**
When changing mechanism parts, apply the specified grease to areas marked "XX" as shown in the drawing.

| Ref. No. | Part Name | Part No. |
|---|---|---|
| A | FL0IL AK-152 | SZZ0L 18 |
| C | FL0IL947P | RZZ0L 02 |

# ■ REPLACEMENT PARTS LIST

Notes : • Important safety notice:
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• The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| | | | |
| | | INTEGRATED CIRCUIT(S) | |
| | | | |
| IC1 | AN7384 | ELECTRIC VOLUME | |
| IC2 | AN7351K | PLAYBACK/REC AMP | |
| IC3 | M5218L | HEADPHONES AMP | |
| IC4 | M5218L | SIGNAL LEVEL DET. | |
| IC301 | UPC1297CA | DOLBY HX PRO | |
| IC401 | CXA1331S | DOLBY B/C NR | |
| IC901 | M50942-502SP | MICROCOMPUTER | |
| IC951 | LB9051A-WD | HALL (DECK1) | |
| IC971 | LB9051A-WD | HALL (DECK2) | |
| | | | |
| | | TRANSISTOR(S) | |
| | | | |
| Q1-4 | 2SJ164PQRTA | TRANSISTOR | |
| Q5-8 | 2SA1309A-R | TRANSISTOR | |
| Q9-14 | 2SC3311A-Q | TRANSISTOR | |
| Q15, 16 | 2SD1450RSTA | TRANSISTOR | |
| Q301, 302 | 2SC3311A-Q | TRANSISTOR | |
| Q303 | 2SA1309A-R | TRANSISTOR | |
| Q304 | KSD471ACYGTA | TRANSISTOR | |
| Q305 | 2SB1357EFTA | TRANSISTOR | |
| Q306, 307 | DTA114YSTP | TRANSISTOR | |
| Q401-404 | 2SC3311A-Q | TRANSISTOR | |
| Q601 | 2SA1309A-R | TRANSISTOR | ⚠ |
| Q602 | 2SC3311A-Q | TRANSISTOR | ⚠ |
| Q603 | 2SD2037EFTA | TRANSISTOR | |
| Q604 | 2SB1357EFTA | TRANSISTOR | |
| Q605 | KSD471ACYGTA | TRANSISTOR | |
| Q606 | 2SB621A-R | TRANSISTOR | |
| Q607 | 2SC3311A-Q | TRANSISTOR | |
| Q608 | 2SA1309A-R | TRANSISTOR | |
| Q701 | 2SC3311A-Q | TRANSISTOR | |
| Q901 | 2SC3311A-Q | TRANSISTOR | |
| Q902 | DTA114ESTP | TRANSISTOR | |
| Q903 | DTC114ESTP | TRANSISTOR | |
| Q904-906 | DTA114ESTP | TRANSISTOR | |
| Q907 | 2SA1309A-R | TRANSISTOR | |
| Q908 | 2SB621A-R | TRANSISTOR | |
| Q909 | DTC114ESTP | TRANSISTOR | |
| Q910 | 2SC3311A-Q | TRANSISTOR | |
| Q911, 912 | DTC114ESTP | TRANSISTOR | |
| Q913 | 2SB621A-R | TRANSISTOR | ⚠ |
| Q914 | DTC114ESTP | TRANSISTOR | |
| Q915 | 2SA1309A-R | TRANSISTOR | |
| Q916 | DTC114ESTP | TRANSISTOR | |
| Q917 | 2SB621A-R | TRANSISTOR | ⚠ |
| Q918 | DTC114ESTP | TRANSISTOR | |
| Q919 | 2SB621A-R | TRANSISTOR | ⚠ |
| Q920 | DTC114ESTP | TRANSISTOR | |
| Q921 | 2SA1309A-R | TRANSISTOR | |
| Q922 | DTC114ESTP | TRANSISTOR | |
| Q923 | 2SB621A-R | TRANSISTOR | ⚠ |
| Q924 | DTC114ESTP | TRANSISTOR | |
| | | | |
| | | DIODE(S) | |
| | | | |
| D1, 2 | MA167 | DIODE | |
| D3, 4 | MA165 | DIODE | |
| D301, 302 | MA165 | DIODE | |
| D303 | MTZJ8R2CTA | DIODE | |
| D601-607 | 1SR35200TB | DIODE | ⚠ |
| D608 | MA165 | DIODE | |
| D609 | MTZJ6R2BTA | DIODE | |
| D610 | MTZJ20DTA | DIODE | |
| D611 | MTZJ30DTA | DIODE | |
| D612, 613 | MTZJ8R2CTA | DIODE | |
| D617-619 | 1SR35200TB | DIODE | ⚠ |
| D901, 902 | MA165 | DIODE | |
| D904-911 | MA165 | DIODE | |
| D912, 913 | MA165 | DIODE | ⚠ |
| D914, 915 | MA165 | DIODE | |
| D916, 917 | 1SR35200TB | DIODE | |
| D918, 919 | MA165 | DIODE | |
| D922-927 | MA165 | DIODE | |
| D928 | MTZJ5R1BTA | DIODE | |
| D929, 930 | MA165 | DIODE | |
| D951 | RVD1SS133TA | DIODE (DECK1) | |
| D971 | RVD1SS133TA | DIODE (DECK2) | |
| | | | |
| | | VARIABLE RESISTOR(S) | |
| | | | |
| VR1-4 | EVNDXAA00B24 | PLAYBACK GAIN ADJ. | |
| VR5, 6 | EVNDXAA00B14 | OVERALL GAIN ADJ. | |
| VR301 | EVNDXAA00B53 | ERASE CURRENT ADJ. | |
| VR302, 303 | EVNDXAA00B14 | OVERALL FREQ. ADJ. | |
| VR701 | EVJ02FF02B15 | REC LEVEL CONTROL | |
| VR702 | EVJ02SF02G15 | BALANCE | |
| VR901-903 | EVNDXAA00B53 | TAPE SPEED ADJ. | |
| | | | |
| | | COIL(S) | |
| | | | |
| L1, 2 | SLQX272-1YT | COIL | |
| L3, 4 | SLQX303-1KT | COIL | |
| L5, 6 | RLQB103JT-Y | COIL | |
| L301 | SL09B4-K | COIL | |
| L302, 303 | SL09B1-Z | COIL | |
| L401, 402 | QLM9Z10K | COIL | |
| | | | |
| | | TRANSFORMER(S) | |
| | | | |
| T1 | RTP1K4C008-V | POWER TRANSFORMER | (P, PC) ⚠ |
| T1 | RTP1K4E014-V | POWER TRANSFORMER | (EB, EG, GN) ⚠ |
| T1 | RTP1K4E015-V | POWER TRANSFORMER | (GC) ⚠ |
| | | | |
| | | OSCILLATOR(S) | |
| | | | |
| X901 | EF0GC4004A4 | CERAMIC FILTER(4MHz) | |
| | | | |
| | | DISPLAY TUBE(S) | |
| | | | |
| FL701 | RSL0086-F | DISPLAY TUBE | ⚠ |
| | | | |
| | | SWITCH(ES) | |
| | | | |
| S701 | SSH1238 | POWER | ⚠ |
| S703 | EVQ21405R | AUTO REC MUTE(DECK2) | |
| S704 | EVQ21405R | STOP(DECK2) | |
| S705 | EVQ21405R | F. F. (DECK2) | |
| S706 | EVQ21405R | REW. (DECK2) | |
| S707 | EVQ21405R | F. PLAYBACK(DECK2) | |
| S708 | EVQ21405R | R. PLAYBACK(DECK2) | |
| S709 | EVQ21405R | REC(DECK2) | |
| S710 | EVQ21405R | PAUSE(DECK2) | |
| S711 | EVQ21405R | SYNCHRO START | |
| S712 | EVQ21405R | EDITING TAPE SPEED(X1) | |
| S713 | EVQ21405R | EDITING TAPE SPEED(X2) | |
| S714 | EVQ21405R | DOLBY NR B | |
| S715 | EVQ21405R | DOLBY NR C | |
| S716 | EVQ21405R | STOP(DECK1) | |
| S717 | EVQ21405R | F. F. (DECK1) | |
| S718 | EVQ21405R | REW. (DECK1) | |
| S719 | EVQ21405R | PLAYBACK(DECK1) | |
| S721-723 | EVQ21405R | REVERSE MODE | |
| S724 | EVQ21405R | COUNTER RESET2(DECK2) | |
| S951 | RSH1A89ZB-U | MODE(DECK1) | |
| S952 | RSH1A90YB-U | HALF(DECK1) | |
| S953 | RSH1A90YB-U | ATS(DECK1) | |
| S971 | RSH1A89ZB-U | MODE(DECK2) | |
| S972 | RSH1A90YB-U | HALF(DECK2) | |
| S973 | RSH1A90YB-U | R. REC INH. (DECK2) | |
| S974 | RSH1A90YB-U | F. REC INH. (DECK2) | |
| S975, 976 | RSH1A90YB-U | ATS(DECK2) | |
| | | | |
| | | CONNECTOR(S) AND SOCKET(S) | |
| CN2P | SJT30643-V | CONNECTOR(6P) | |
| CN2PA | RJS1A6603 | CONNECTOR(3P) | |
| CN2PB | RJS1A6603 | CONNECTOR(3P) | |
| CN3 | SJSD1005 | CONNECTOR(10P) | |
| CN4 | RJS1A6604 | CONNECTOR(4P) | |
| CN5 | RJS7T4ZA | CONNECTOR(7P) | |
| CN6 | RJS1A6604 | CONNECTOR(4P) | |
| CN7-9 | RJU003K010M1 | SOCKET(10P) | |
| CN10A | RJS1A6604 | CONNECTOR(4P) | |
| CN10B | RJS1A6603 | CONNECTOR(3P) | |
| CN11, 12 | SJS50581BB | SOCKET(5P) | |
| CP1 | SJTD313 | CONNECTOR(3P) | |
| CP2 | RJP5G18ZA | CONNECTOR(5P) | |
| CP7-9 | RJT003K010M1 | CONNECTOR(10P) | |
| CP11, 12 | SJT30548BB1 | CONNECTOR(5P) | |
| | | | |
| | | JACK(S) | |
| | | | |
| JK1 | SJF3069N | TERMINAL BOARD | |
| JK3 | RJJ33T01 | M3 JACK(BLACK) | |
| JK4, 5 | RJJ33TR01 | M3 JACK(RED) | |
| JK701 | SJSD16 | AC INLET | (P, PC, GN) ⚠ |
| JK701 | SJS9236 | AC INLET | (EB, EG, GC) ⚠ |
| JK702 | SJS9331B | AC OUTLET | (P, PC) ⚠ |
| JK703 | SSR187-1 | VOLTAGE SELECTOR | (GC) ⚠ |
| JK711 | SJJ146B | HEADPHONES JACK | |
| | | | |
| | | GND PART(S) | |
| | | | |
| E1 | SNE1004-1 | GND PLATE | |
| E3 | SUSD165 | GND SPRING | |
| | | | |
| | | FLAT CABLE(S) | |
| | | | |
| W2P | RWJ1806110QQ | FLAT CABLE(6P) | |
| W3 | RWJ5710200QQ | FLAT CABLE(10P) | |
| W4 | RWJ1804160QQ | FLAT CABLE(4P) | |
| W5 | RWJ5707200QQ | FLAT CABLE(7P) | |
| W6 | RWJ1804160QQ | FLAT CABLE(4P) | |
| W10 | RWJ1807300KQ | FLAT CABLE(7P) | |
| W701 | RWJ1804040EE | FLAT CABLE(4P) | |

# ■ RESISTORS & CAPACITORS

Notes : • Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads(pF) F=Farads(F)
• Resistance values are in ohms, unless specified otherwise, 1K=1,000(OHM) , 1M=1,000k(OHM)

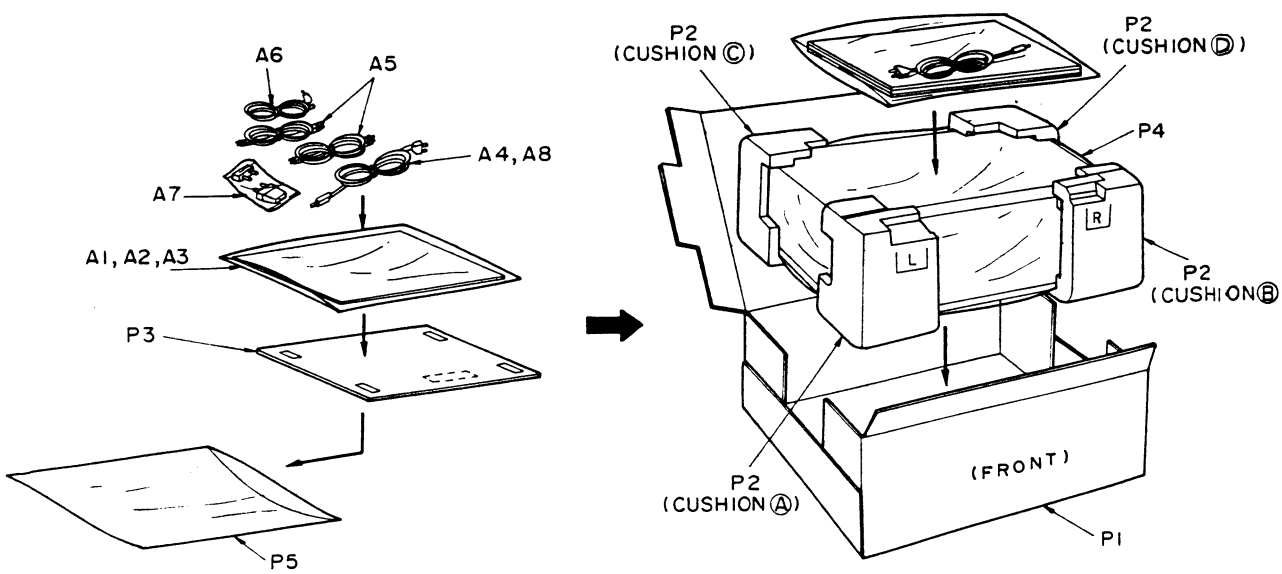
| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| | | |
| | | RESISTORS |
| | | |
| R1, 2 | ERDS2TJ394 | 1/4W 390K |
| R3, 4 | ERDS2TJ393 | 1/4W 39K |
| R5, 6 | ERDS2TJ183T | 1/4W 18K |
| R7, 8 | ERDS2TJ225 | 1/4W 2.2M |
| R9, 10 | ERDS2TJ332 | 1/4W 3.3K |
| R11, 12 | ERDS2TJ102 | 1/4W 1K |
| R13, 14 | ERDS2TJ332 | 1/4W 3.3K |
| R15, 16 | ERDS2TJ561 | 1/4W 560 |
| R17, 18 | ERDS2TJ101 | 1/4W 100 |
| R19, 20 | ERDS2TJ103 | 1/4W 10K |
| R21, 22 | ERDS2TJ225 | 1/4W 2.2M |
| R23, 24 | ERDS2TJ104 | 1/4W 100K |
| R25-28 | ERDS2TJ101 | 1/4W 100 |
| R29, 30 | ERDS2EJ121 | 1/4W 120 |
| R31, 32 | ERDS2TJ273 | 1/4W 27K |
| R33, 34 | ERDS2TJ183T | 1/4W 18K |
| R35, 36 | ERDS2TJ394 | 1/4W 390K |
| R37, 38 | ERDS2TJ272T | 1/4W 2.7K |
| R39 | ERDS2TJ223 | 1/4W 22K |
| R40 | ERDS2TJ392T | 1/4W 3.9K |
| R41, 42 | ERDS2TJ223 | 1/4W 22K |
| R43, 44 | ERDS2TJ472 | 1/4W 4.7K |
| R45, 46 | ERDS2TJ562 | 1/4W 5.6K |
| R47, 48 | ERDS2TJ103 | 1/4W 10K |
| R49, 50 | ERDS2TJ332 | 1/4W 3.3K |
| R51, 52 | ERDS2TJ122 | 1/4W 1.2K |
| R53, 54 | ERDS2TJ330 | 1/4W 33 |
| R55, 56 | ERDS2TJ562 | 1/4W 5.6K |
| R57, 58 | ERDS2TJ152 | 1/4W 1.5K |
| R59, 60 | ERDS2TJ272T | 1/4W 2.7K |
| R61, 62 | ERDS2TJ103 | 1/4W 10K |
| R63, 64 | ERDS2TJ104 | 1/4W 100K |
| R65, 66 | ERDS2TJ473 | 1/4W 47K |
| R67, 68 | ERDS2TJ124T | 1/4W 120K |
| R69, 70 | ERDS2TJ220T | 1/4W 22 |
| R71, 72 | ERDS2TJ152 | 1/4W 1.5K |
| R301 | ERDS2TJ1R0 | 1/4W 1.0 |
| R302, 303 | ERDS2TJ183T | 1/4W 18K |
| R304, 305 | ERDS2TJ100 | 1/4W 10 |
| R306 | ERDS2TJ471 | 1/4W 470 |
| R307, 308 | ERDS2TJ102 | 1/4W 1K |
| R311, 312 | ERDS2TJ101 | 1/4W 100 |
| R313, 314 | ERDS2TJ154 | 1/4W 150K |
| R315, 316 | ERDS2TJ153 | 1/4W 15K |
| R317, 318 | ERDS2TJ102 | 1/4W 1K |
| R319 | ERDS2TJ182 | 1/4W 1.8K |
| R320 | ERDS2TJ272T | 1/4W 2.7K |
| R401-404 | ERDS2TJ684 | 1/4W 680K |
| R405, 406 | ERDS2TJ242 | 1/4W 2.4K |
| R407, 408 | ERDS2TJ562 | 1/4W 5.6K |
| R409, 410 | ERDS2TJ243T | 1/4W 24K |
| R411, 412 | ERDS2TJ561 | 1/4W 560 |
| R413, 414 | ERDS2TJ682T | 1/4W 6.8K |
| R415, 416 | ERDS2TJ562 | 1/4W 5.6K |
| R417 | ERDS2TJ151 | 1/4W 150 |
| R418 | ERDS2TJ273 | 1/4W 27K |
| R603 | ERDS2TJ472 | 1/4W 4.7K ⚠ |
| R604 | ERDS2TJ472 | 1/4W 4.7K |
| R605 | ERDS2TJ103 | 1/4W 10K |
| R606 | ERDS2TJ472 | 1/4W 4.7K ⚠ |
| R607, 608 | ERDS2TJ102 | 1/4W 1K |
| R609 | ERD2FCVG150T | 1/4W 15 ⚠ |
| R610 | ERD2FCVG180T | 1/4W 18 ⚠ |
| R611, 612 | ERDS2TJ101 | 1/4W 100 |
| R613 | ERD2FCVG330T | 1/4W 33 ⚠ |
| R614 | ERDS2TJ222 | 1/4W 2.2K ⚠ |
| R615 | ERDS2TJ101 | 1/4W 100 |
| R616 | ERD2FCVG330T | 1/4W 33 ⚠ |
| R617 | ERDS2TJ222 | 1/4W 2.2K |
| R618 | ERDS2TJ181T | 1/4W 180 |
| R619, 620 | ERDS2TJ681 | 1/4W 680 ⚠ |
| R621, 622 | ERD2FCVG100T | 1/4W 10 ⚠ |
| R623, 624 | ERDS2TJ122 | 1/4W 1.2K ⚠ |
| R625-632 | ERDS2TJ221 | 1/4W 220 |
| R633, 634 | ERD2FCVG330T | 1/4W 33 ⚠ |
| R635 | ERDS2TJ120T | 1/4W 12 ⚠ |
| R636 | ERDS2TJ100 | 1/4W 10 ⚠ |
| R637 | ERDS1FVJ220T | 1/2W 22 ⚠ |
| R701 | ERDS2TJ821 | 1/4W 820 |
| R702 | ERDS2TJ102 | 1/4W 1K |
| R703 | ERDS2TJ122 | 1/4W 1.2K |
| R704 | ERDS2TJ152 | 1/4W 1.5K |
| R705 | ERDS2TJ182 | 1/4W 1.8K |
| R706 | ERDS2TJ222 | 1/4W 2.2K |
| R707 | ERDS2TJ332 | 1/4W 3.3K |
| R708 | ERDS2TJ472 | 1/4W 4.7K |
| R709 | ERDS2TJ682T | 1/4W 6.8K |
| R710 | ERDS2TJ123 | 1/4W 12K |
| R711 | ERDS2TJ223 | 1/4W 22K |
| R712 | ERDS2TJ683 | 1/4W 68K |
| R713 | ERDS2TJ821 | 1/4W 820 |
| R714 | ERDS2TJ102 | 1/4W 1K |
| R715 | ERDS2TJ122 | 1/4W 1.2K |
| R716 | ERDS2TJ152 | 1/4W 1.5K |
| R717 | ERDS2TJ182 | 1/4W 1.8K |
| R718 | ERDS2TJ222 | 1/4W 2.2K |
| R719 | ERDS2TJ332 | 1/4W 3.3K |
| R720 | ERDS2TJ472 | 1/4W 4.7K |
| R723 | ERDS2TJ153 | 1/4W 15K |
| R724, 725 | ERDS2TJ102 | 1/4W 1K |
| R726, 727 | ERDS2TJ562 | 1/4W 5.6K |
| R901 | ERDS2TJ472 | 1/4W 4.7K |
| R902 | ERDS2TJ822 | 1/4W 8.2K |
| R903 | ERDS2TJ472 | 1/4W 4.7K |
| R904 | ERDS2TJ122 | 1/4W 1.2K |
| R905, 906 | ERDS2TJ103 | 1/4W 10K |
| R907, 908 | ERDS2TJ472 | 1/4W 4.7K |
| R910 | ERDS2TJ222 | 1/4W 2.2K |
| R911 | ERDS2TJ392T | 1/4W 3.9K |
| R912-914 | ERDS2TJ103 | 1/4W 10K |
| R915 | ERDS2TJ473 | 1/4W 47K |
| R916 | ERDS2TJ222 | 1/4W 2.2K |
| R917 | ERDS2TJ122 | 1/4W 1.2K |
| R918 | ERDS2TJ472 | 1/4W 4.7K |
| R919 | ERDS2TJ223 | 1/4W 22K |
| R920 | ERDS2TJ392T | 1/4W 3.9K |
| R921 | ERDS2TJ471 | 1/4W 470 |
| R922, 923 | ERDS2TJ103 | 1/4W 10K |
| R924 | ERDS2TJ102 | 1/4W 1K |
| R925 | ERDS2TJ105T | 1/4W 1M |
| R926 | ERDS2TJ223 | 1/4W 22K |
| R927 | ERDS2TJ472 | 1/4W 4.7K |
| R928-930 | ERDS2TJ103 | 1/4W 10K |
| R931-933 | ERDS2TJ102 | 1/4W 1K |
| R934 | ERDS2TJ272T | 1/4W 2.7K |
| R935, 936 | ERDS2TJ100 | 1/4W 10 |
| R937-941 | ERDS2TJ472 | 1/4W 4.7K |
| R942 | ERDS2TJ822 | 1/4W 8.2K |
| R943 | ERDS2TJ223 | 1/4W 22K ⚠ |
| R944 | ERDS2TJ821 | 1/4W 820 |
| R945 | ERDS2TJ221 | 1/4W 220 |
| R946 | ERDS2TJ103 | 1/4W 10K |
| R947 | ERDS2TJ392T | 1/4W 3.9K |
| R948 | ERDS2TJ184T | 1/4W 180K |
| R949 | ERDS2TJ103 | 1/4W 10K |
| R950 | ERDS2TJ223 | 1/4W 22K ⚠ |
| R951 | ERDS2TJ821 | 1/4W 820 |
| R952 | ERDS2TJ223 | 1/4W 22K ⚠ |
| R953 | ERDS2TJ821 | 1/4W 820 |
| R954 | ERDS2TJ103 | 1/4W 10K |
| R955 | ERDS2TJ332 | 1/4W 3.3K |
| R956 | ERDS2TJ103 | 1/4W 10K |
| R957 | ERDS2TJ392T | 1/4W 3.9K |
| R958 | ERDS2TJ184T | 1/4W 180K |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| R959 | ERDS2TJ103 | 1/4W 10K |
| R960 | ERDS2TJ223 | 1/4W 22K ⚠ |
| R962 | ERDS2TJ223 | 1/4W 22K |
| R963 | ERDS2TJ562 | 1/4W 5.6K |
| R965 | ERDS2TJ153 | 1/4W 15K |
| R966 | ERDS2TJ821 | 1/4W 820 |
| R967 | ERDS2TJ563 | 1/4W 56K |
| R968 | ERDS2TJ272T | 1/4W 2.7K |
| R969, 970 | ERDS2TJ472 | 1/4W 4.7K |
| R971 | ERDS2TJ152 | 1/4W 1.5K |
| R972 | ERDS2TJ103 | 1/4W 10K |
| | | |
| | | CAPACITORS |
| | | |
| C1-4 | ECEA1HKA010B | 50V 1U |
| C5, 6 | ECEA1CKA220B | 16V 22U |
| C7, 8 | ECEA1CKA100B | 16V 10U |
| C9, 10 | ECBT1H561KB5 | 50V 560P |
| C11, 12 | ECBT1H102KB5 | 50V 1000P |
| C13, 14 | ECEA1AU101 | 10V 100U |
| C15, 16 | ECQB1H822JF3 | 50V 8200P |
| C17-20 | ECEA1EKA4R7B | 25V 4.7U |
| C21, 22 | ECBT1H471KB5 | 50V 470P |
| C23 | ECBT1H102KB5 | 50V 1000P |
| C24 | ECEA1AU101 | 10V 100U |
| C25, 26 | ECQB1H472JF3 | 50V 4700P |
| C27, 28 | ECQB1H223JF3 | 50V 0.022U |
| C29, 30 | ECQB1H103JF3 | 50V 0.01U |
| C31, 32 | ECQB1H223JF3 | 50V 0.022U |
| C33, 34 | ECQV1H563JZ3 | 50V 0.056U |
| C37, 38 | ECBT1H181KB5 | 50V 180P |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| C39, 40 | ECEA1HKAR47B | 50V 0.47U |
| C41, 42 | ECQB1H153JF3 | 50V 0.015U |
| C43, 44 | ECEA1EKA4R7B | 25V 4.7U |
| C45, 46 | ECBT1H561KB5 | 50V 560P |
| C47, 48 | ECKR2H101KB5 | 500V 100P |
| C49, 50 | ECQV1H104JZ3 | 50V 0.1U |
| C51, 52 | ECEA1AU101 | 10V 100U |
| C53, 54 | ECBT1H391KB5 | 50V 390P |
| C55, 56 | ECBT1C472KR5 | 16V 4700P |
| C57, 58 | ECQB1H153JF3 | 50V 0.015U |
| C61, 62 | ECQB1H153JF3 | 50V 0.015U |
| C301 | ECQP1153JZ | 100V 0.015U |
| C302 | ECEA1EKA4R7B | 25V 4.7U |
| C303 | ECKR1H392KB5 | 50V 3900P |
| C304, 305 | ECKW1H222KB5 | 50V 2200P |
| C306 | ECKD1H682KB | 50V 6800P |
| C307 | ECKR1H103ZF5 | 50V 0.01U |
| C308 | ECEA1AU221 | 10V 220U |
| C309 | ECKR1H103ZF5 | 50V 0.01U |
| C310 | ECKR1H472KB5 | 50V 4700P |
| C311 | ECKR1H103ZF5 | 50V 0.01U |
| C313, 314 | ECKT1H223ZF | 50V 0.022U |
| C315, 316 | ECKR2H821KB5 | 500V 820P |
| C317, 318 | ECBT1H121KB5 | 50V 120P |
| C319, 320 | ECQV1H473JZ3 | 50V 0.047U |
| C321, 322 | ECQB1H223JF3 | 50V 0.022U |
| C323, 324 | ECQB1H103JF3 | 50V 0.01U |
| C325, 326 | ECKT1H122KB | 50V 1200P |
| C327 | ECEA1CKA100B | 16V 10U |
| C328, 329 | ECCF1H220K | 50V 22P |
| C331 | ECKR1H103ZF5 | 50V 0.01U |

| Ref. No. | Part No. | Values & Remarks |
|---|---|---|
| C401, 402 | ECKT1H122KB | 50V 1200P |
| C403, 404 | ECKD1H152KB | 50V 1500P |
| C405-408 | ECQB1H222JF3 | 50V 2200P |
| C409, 410 | ECEA1HUR56B | 50V 0.56U |
| C411, 412 | ECEA1HKAR33B | 50V 0.33U |
| C413, 414 | ECEA1EKA4R7B | 25V 4.7U |
| C415, 416 | ECEA1CKA100B | 16V 10U |
| C601 | ECKR2H682PE | 500V 6800P ⚠ |
| C603, 604 | ECA1EM102B | 25V 1000U ⚠ |
| C605 | ECEA1EU222B | 25V 2200U ⚠ |
| C606 | ECKR2H682PE | 500V 6800P ⚠ |
| C607, 608 | ECEA1AU471 | 10V 470U |
| C609, 610 | ECKR1H103ZF5 | 50V 0.01U |
| C612 | ECA1HM470B | 50V 47U |
| C613, 614 | ECKR1H103ZF5 | 50V 0.01U |
| C615, 616 | ECEA1VU220 | 35V 22U ⚠ |
| C617, 618 | ECKR1H103ZF5 | 50V 0.01U |
| C619, 620 | ECA1AM102B | 10V 1000U |
| C621, 622 | ECEA1CKA470B | 16V 47U |
| C623, 624 | ECBT1E103ZF | 25V 0.01U |
| C625, 626 | ECKR1H103ZF5 | 50V 0.01U |
| C631 | ECEA1EU470 | 25V 47U |
| C701 | ECKR1H103ZF5 | 50V 0.01U |
| C702 | ECBT1E103ZF | 25V 0.01U |
| C901 | ECA0JM222B | 6.3V 2200U |
| C902, 903 | ECKR1H103ZF5 | 50V 0.01U |
| C904 | ECEA1EKA4R7B | 25V 4.7U |
| C905 | ECEA1HKA010B | 50V 1U |
| C906 | ECEA1CKA100B | 16V 10U |
| C911 | ECEA1AU101 | 10V 100U |
| | | |

## ■ PACKING




<CUSHION Ⓐ, Ⓑ, Ⓒ, Ⓓ Part No.: RPN0296>



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